

Navy Medicine

January-February 2006



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COVER: In sick bay of USS *Barry* (DD-933), World War II veteran CAPT Joseph Pollard, MC, USN (Ret.) and Navy Medical Department Historian Jan K. Herman discuss Dr. Pollard's role as a flight surgeon aboard USS *Yorktown* (CV-5) during the Battle of Midway. The Bureau of Medicine and Surgery will soon release the fourth video in the series on Navy medicine in World War II. Story on page 25. Photo by André Sobocinski, Assistant Historian, Bureau of Medicine and Surgery, Washington, DC.

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LT Joseph Pollard (without helmet) and a corpsman treat a wounded crewman after a Japanese bomb exploded on the flight deck of USS *Yorktown* (CV-5) during the Battle of Midway. Dr. Pollard is featured on the cover of this issue. Photo from Naval Historical Center



Naval Historical Center

Department Rounds

Angels From Above: II MEF CASEVAC Teams Save Lives

The Greyhawks of Marine Medium Helicopter Squadron 161 and the hospital corpsmen of the II Marine Expeditionary Force (MEF) casualty evacuation team serving at Al Taqqadum, Iraq, are ready to soar into hostile environments. The team transports wounded Marines, Iraqi civilians, coalition and Iraqi forces, and prisoners of war. They also provide in-flight medical care as they fly to the best equipped hospitals in Iraq. Since assuming their mission on 15 August, the Navy/Marine Corps team has flown more than 450 patients. Their missions have varied from mass casualty evacuations to pulling an Iraqi citizen from a burning vehicle on a highway.

"Right at shift change, the alarm went off. The next second we were flying to Fallujah responding to a large explosion," said HMC Anna Congdon, leading chief petty officer for II MEF CASEVAC. "As soon as we landed, one Marine and 20 very badly burned Iraqis boarded our CH-46 Sea Knight."



HM3 Arthur Leal, with II Marine Expeditionary Force (MEF), ensures a wounded service member receives the correct amount of morphine. Photo by CPL Cullen J. Tiernan, USMC

"We're the difference between life and death," said HMCS Robert E. Brown, the II MEF CASEVAC supervisor. "The corpsmen are doing an outstanding job and have a great support structure here. We even have a chaplain on board. We fly very unique and rewarding missions, and we know we make a difference."

The corpsmen all graduated from a 25-day CASEVAC course at Marine Corps Air Station New River, NC, with the 2nd Marine Aircraft Wing. Their curriculum included helicopter familiarization, advanced trauma management, and an emergency medical school. Brown said the preparation enabled them to be mentally and physically ready for the job. "We conduct the CASEVAC mission throughout the Al Anbar province," he said. "The corpsmen are able to use their medical skills when they fly to a point of injury. There, they may be the first to see the patients and they are prepared for that trauma," LCOL Robert M. Brassaw, the commanding officer of HMM-161, said "the Navy-Marine Corps team works great. As the Marines learned to help the corpsmen during dire circumstances, the corpsmen have learned to assist the crew chiefs getting the aircraft in the air."

"The CASEVAC job may be very demanding, but the Greyhawks love their job and know they are making a difference. I had an Iraqi call me an angel from the sky," said Congdon. "By providing in-flight medical care, I know we are making a difference in the chain of medical care." □

—Story by CPL Cullen J. Tiernan, USMC, 2nd Marine Aircraft Wing, Al Taqqadum, Iraq.

EMF Kuwait, Camp Pendleton Detachment Takes Charge During Ceremony

During a formal military change of command ceremony in the Kuwaiti desert, CAPT Catherine A. Wilson, NC, assumed command of U.S. Military Hospital Kuwait from CAPT Jack E. Riggs, MC. CAPT Wilson is commanding officer of Expeditionary Medical Facility (EMF) Kuwait, Camp Pendleton Detachment (CP Det.), and CAPT Riggs is commanding officer of Expeditionary Medical Facility Dallas.

During his remarks, CAPT Riggs reviewed the past 10 months his staff of nearly 400 medical personnel provided care to more than 100,000 patients, and performed nearly 1,800 surgical procedures, noting with pleasure



CAPT Catherine A. Wilson, NC.
Photo from www.cpen.med.navy.mil

healthcare.

"We have received a marvelous turnover from the staff of EMF Dallas and are ready to carry out our mission," CAPT Wilson said.

"Our mission is expansive: to staff U.S. Military Hospital Kuwait, and its nine Troop Medical Clinics located throughout Kuwait and Qatar, and to provide healthcare for military personnel stationed in, or transiting through, the U.S. Army Forces Central Command area of responsibility to include Kuwait, Qatar, Afghanistan, Iraq, and our Fleet Forces," CAPT Wilson explained.

On hand, representing the Surgeon General of the Navy, was RADM Elizabeth M. Morris, NC, Associate Chief, Human Capital for Navy medicine.

During her keynote address, she thanked EMF Dallas for being "trailblazers for Navy medicine" in taking over a key medical mission from another service (Army) in support of the global war on terrorism. This is part of an effort to relieve the strain of continuous support that some other services, such as the Army, have provided.

EMF Kuwait, Camp Pendleton Detachment represents a ground breaking concept in staffing deployment missions—noting that the EMF Kuwait is made up of personnel from more than 22 Navy medicine activities around the world. This new method of sourcing spreads out the requirement across many hospitals and clinics to reduce the impact of loss of staff due to deployment, she added.

U.S. Military Hospital Kuwait is a Level III medical facility that provides outpatient as well as inpatient care and specialty services such as cardiology, pulmonary, critical care, internal medicine, general surgery, optometry, orthopedics, gynecology, laboratory, pharmacy, radiology, mental health, dental, and physical therapy.

"I have an outstanding group of healthcare professionals with me," CAPT Wilson said. They represent the best

the outstanding reputation EMF Dallas built throughout the theater of operations.

"For most of us this mission will be the highlight of our naval careers," he said, commenting on the profound experience this deployment was for the all reserve EMF Dallas crew.

In her remarks, CAPT Wilson complimented the outgoing Dallas crew for their sacrifices and superb

of Navy medicine and we are ready to move forward with what we do best: provide world class healthcare to those who need it."□

—Story by JOC Stephen K. Robinson, USN

Strategies For Reducing Physical Training Related Injuries—A DOD Priority

The Navy Environmental Health Center (NEHC) is a major participant in the Joint Services Physical Training Injury Prevention Work Group (JSPTIPWG) sanctioned by the Department of Defense (DOD), currently working to identify strategies for reducing physical training related injuries.

The JSPTIPWG is a component of the Military Training Task Force, Defense Safety Oversight Council, whose formation was directed by Secretary of Defense Donald Rumsfeld. The importance of injury prevention to Secretary Rumsfeld is best summarized by his comments that "Reducing accidents is important to DOD's bottom line—operational readiness."

Experts in the field of physical performance and surveillance/prevention of musculoskeletal injuries were selected as members of this interdisciplinary team. Membership from the Navy and Marine Corps include personnel from the training, research, safety, and medical communities.

The purpose of this work group is to evaluate military physical training injury prevention programs, policies, and research for cross-service recommendations. The focus of the work group is on physical training related injuries in and beyond initial entry training.

According to Ms. Diana Settles, NEHC Program Manager for Physical Fitness & Injury Prevention programs, "We need to know why, when, where, and how these musculoskeletal injuries are occurring. The work group is currently analyzing and prioritizing the injury prevention literature to identify key injury related issues. The comprehensive literature review includes examining available literature on intervention studies, along with those risk factors associated with these types of injuries. The review of literature will serve as an evidence-based tool to assist the JSPTIPWG in identifying what really works to prevent training related musculoskeletal injuries throughout the DOD."



Marines assigned to the 26th Marine Expeditionary Unit start their morning with group exercises on the flight deck aboard **USS Bataan (LHD-5)**. Navy photo by PH2 Christopher M. Staten, USN

“The surveillance component is another essential tool in identifying key musculoskeletal injury prevention strategies. Medical surveillance systems such as the Training Information Management System (TIMS), managed by the NEHC Population Health Directorate, is an exemplary example of how medical surveillance benefits the training community. As an example, the TIMS system identifies not only the types of initial entry training injuries incurred within the Marine Corps, but also the causes of the injuries. The resultant information provided to the USMC training community; is then translated into an intervention strategy” added Settles.

Additionally, the work group has several “task” teams targeting many specific injury prevention categories and identifying corresponding interventions. Their analysis includes injury prevention interventions in the areas of exercise/training programs, equipment and environment, education, nutrition supplements and hydration, medication and medical cares, leadership, and surveillance and evaluation.

The global war on terrorism requires every service member to have the highest level of operational readiness. Prevention and protection against injury (battle and non-battle) are critical to our force health protection mission. Injury prevention also serves as an enabler for enhanced human performance to improve combat effectiveness and decreased warfighter morbidity. The dynamic work of the JSPTIPWG will identify the “lowest hanging fruit” in reducing the incidence and severity of physical training injuries. □

—Story by Hugh Cox, Public Affairs, Navy Environmental Health Center, Portsmouth, VA.

Corpsman Continues to Care for Marines after Losing Leg

Company L’s mission was to patrol the southern part of Ar Ramadi in support of “Operation Bowie.” However, everything changed on 4 October, when the convoy made its way through the dirt roads that make up the southern part of town.

“As soon as we got on the dirt roads, four improvised explosive devices (IED) went off about 2 feet from our vehicles,” said CPL Jason Luedke. “Our Humvee ended up in a 3-foot crater.” Another Marine in the second vehicle, CPL Neil Frustaglio, was one of the first people to rush up to the flipped vehicle.

“I was the first person there, and I heard HN Nathaniel Leoncio screaming for help,” he said. “I saw that he was caught under the Humvee, that his leg was stuck,” said Frustaglio. “I grabbed the edge of the Humvee and lifted it. He struggled to pull himself out from under the Humvee with only his arms.”



HN Nathaniel Leoncio. Official USMC Photo.

Leoncio suffered an amputated right leg below the knee, a shattered right femur, and serious internal bleeding. Before being medically evacuated, he began directing the other Marines at the scene on how to perform aid on

himself and the other injured Marines on-site.

“When I got to Leoncio, he immediately began telling me how to care for him,” said CPL Kurtis Bellmont. “Before he was even stable, he began asking about the others and trying to assess their injuries. Before he would let us move him to the medevac vehicle, we had to tell him that all of the casualties were receiving medical attention.”

One of the passengers in the vehicle, 1st LT Bradley Watson, helped move Leoncio to the medevac vehicle and provided buddy aid to him while they were transported to Camp Ramadi for surgical evacuation.

“When he saw that the bleeding had stopped, he gave Bellmont and me instructions on how to best care for him. He was calm, alert, and responsive,” said Watson.

Although his courage and dedication were highlighted during the horrible events of 4 October, the Marines were not surprised at “Doc Leo’s” courage under fire and performance through pain. “Doc Leo was always helping Marines with anything he could,” said Luedke. “He wanted to be here in Iraq. He said the only reason he joined the Navy was to be a corpsman and serve with Marines in Iraq.” □

—Story by CPL Shane Suzuki, 2nd Marine Division, Iraq.



HN Manuel A. Arciniegas (center) and HN Lester E. Spence treat a resident of Husaybah, Iraq, outside the forward operating base. USMC photo by SGT Josh H. Hauser.

Navy Corpsmen Follow Their Patients to the Frontlines

Marines involved in “Operation Steel Curtain” rely heavily on each other, their weapons, and training for mission success. However, an invaluable asset to any Marine Corps unit are the brave personnel who follow them into battle, the Navy corpsmen. Hospital corpsmen are tasked with maintaining the Marines from stateside command to the frontlines, caring for them each step of the way.

Dedicated to the medical needs of Marines during peacetime and combat, these select personnel, affectionately called “Doc” by their Marines, must complete the Field Medical Service School prior to attaching to a Marine unit. The process is entirely voluntary but viewed as a privilege by those who have chosen what they call the “green side” of Navy service. “There is a lot of trust between Marines and corpsmen; there has to be,” said HN Lester E. Spence, assigned to 8th Engineer Support Battalion (ESB), Combat Logistics Battalion-2, 2nd Marine Logistics Group (Forward). Trust is crucial in a combat environment. “My Marines know that if anything happens to them, I’ll run in there to help them no matter what the situation,” he said. “If I have to put my life in danger, I will. That’s why I’m here, to be with my guys.”

The sense of camaraderie the Marine Corps has become famous for also extends to the corpsmen who attend to them according to HN Manuel A. Arciniegas, with 8th ESB. “Corpsmen here deal with the horrors of war at a moments notice. Facing blast injuries, burns, broken bones, and gunshot wounds, they provide treatment even under fire. They are the first line of treatment for the service members here. We’re basically a paramedic in the field,” Arciniegas said. “Any medical care we can provide to our patient within our means, we do.”

Corpsmen also act as caregivers to the enemy and anyone else who may be injured on the battlefield. “Under

Geneva Convention guidelines, we have to care for anybody who asks or who we see needs help,” Spence said. Corpsmen are also considered noncombatants under the Geneva Convention but are authorized to carry weapons in order to protect themselves and their patients.

While Marines continue operations to ensure a free and democratic country for the people of Iraq, they can do so knowing that the Navy’s dedicated corpsmen are there for them each step of the way. □

—Story by SGT Josh H. Hauser, USMC, 2nd Force Service Support Group.

New Navy Program Awards Hardworking Sailors

Nine naval officers with the 2nd Medical Battalion, 2nd Force Service Support Group, were a few of the first to receive the new Fleet Marine Force (FMF) Qualified Officer Program pin in a ceremony 20 October. The new pin, which replaced the current Navy FMF ribbon for officers, is for all active duty and reserve naval officers serving with operational forces of the Marine Corps.

Similar to the Navy FMF ribbon, those eligible must also qualify to wear the pin by performing numerous tests using both physical and mental abilities.

“Ten months ago they started strengthening their skills and knowledge before the program had even been created,” said CDR Dave E. Gibson, MC, 2nd Medical



ENS Bradley G. McLaughlin is presented the Fleet Marine Force Qualified Officer Program pin by CDR Dave E. Gibson, the battalion commander. Photo by: LCPL Matthew K. Hacker, USMC

Battalion's commanding officer.

"Then in July, the program was approved and the sailors who were above the standard requirements were presented the pin."

Qualification for either ribbon or pin signifies acquisition of specific professional skills, knowledge, and military experience resulting in qualifications above those normally required of Navy personnel serving with the FMF.

Naval officers serving with Marines are integral to accomplishing the mission worldwide

for the Navy and Marine Corps team during combat and peacetime. Operations Enduring Freedom and Iraqi Freedom highlighted the effectiveness and importance of the team as the nation's premier weapon in the global war on terrorism. "These nine men and women are truly the plank owners of the United States Navy," said Gibson. "I would be remiss if I didn't thank them for all their hard work and dedication to their jobs and their core values."

The nine officers presented the pin were CDR Paula H. McClure, CDR Steven A. Kewish, LCDR Douglas D. Clarke, LCDR Lucian C. Laurie, LT David L. Moulton, LT Scott R. Staup, LTJG Erin R. Michael, ENS Robert J. Kimberling, and ENS Bradley G. McLaughlin.

Overall, the newly adapted qualification program encourages officers to broaden their horizons through special training. It motivates them to want to learn more and acquire special skills in order to give the most back to the Navy and get the most from their time served. "I think the program is excellent," Gibson added. "I hope every officer in the battalion takes the initiative to complete it." □

—Story by LCPL Matthew K. Hacker, USMC, 2nd Force Service Support Group.

First Joint Navy, Veterans Affairs Hospital to be Built

Naval Hospital Great Lakes (NHGL) and the North Chicago Veterans Affairs Medical Center (NC-VAMC) hosted a Department of Defense (DOD) and Veterans Affairs (VA) "signing event" 17 October 2005. The event officially announced the construction of the first joint Navy and VA hospital.

"This is an extraordinarily ambitious plan," said U.S. Representative Mark Kirk (R-IL), a Navy reservist who pushed for the merger. "It has been an extensive process that has taken 4 years."

A new \$100 million naval medical facility will be built next to the North Chicago VA Medical Center. Construction is to start in 2007 and be completed in 2009. NHGL will be closed and torn down.

Operating rooms for the combined hospital will be in the existing VA facility and will receive a \$13 million renovation to be completed by June 2006. There will be separate entrances for veterans and Navy personnel.

The naval hospital serves military personnel and their families, while the VA hospital serves veterans. In this joint medical facility, they all will share the same doctors.

DOD and VA officials said that the joint medical facility will save money and give veterans and sailors better healthcare services.

"We know that when new recruits, trainees come in they'll eventually be veterans and we want to take care of them," said Gordon Mansfield, Department of Veterans Affairs Deputy Secretary. "This is the start of a new era of cooperation between the DOD, especially the Navy and the VA." □

—Story by Christine A. Mahoney, Public Affairs Office (M09BK2), Bureau of Medicine and Surgery, Washington, DC.



Artists rendering of the Navy and VA hospital. Photo from www.visn12.med.va.gov

New Wellness Support Program Announced

The Department of Defense announced 21 November the implementation of a Post Deployment Health Re-assessment Program that reaches out to service members 3-6 months after returning from deployment. This new commanders' program complements health assessments currently being conducted for service members before and immediately upon return from deployment.

Our number one priority is the health and wellness of our service members," said Dr. William Winkenwerder, Jr., Assistant Secretary of Defense for Health Affairs. The department realizes deployments, especially to theaters of combat operations, may result in health or adjustment difficulties for some service members. Many of these conditions and concerns take several months to become apparent following a service member's return home.

"As part of DOD's comprehensive medical readiness efforts, this new program helps ensure service members are attuned to their health and have access to the healthcare and community-based services they need to serve strong and live long, healthy lives," said Winkenwerder.

The new assessment program will provide additional health education to service members on deployment-related health problems and treatment resources.

"Commanders will use this tool to offer service members and their families any additional support they may need," said Ellen P. Embrey, Deputy Assistant Secretary of Defense for Force Health Protection and Readiness. □

—DOD News Release 4 November 2005.

Pakistani Patients Streaming In At III MEF Field Hospital Medical Personnel Busy On First Full Day Of Operations

Build it and they will come. That famous saying from the movie "Field of Dreams" was heard coming from several of the medical staff members at the III Marine Expeditionary Force field hospital in Shinkiari, Pakistan.

Physicians, nurses, and corpsmen weren't quite sure what to expect during their first full day of operations at

the facility but they quickly found that word had spread, seemingly at light speed. The local population knew they were open for business.

The detachment from Okinawa includes Marines and sailors from 3rd Marine Logistics Group and the Bravo Surgical Company from 3rd Medical Battalion. In the first 9 hours the facility was open, 69 patients were seen—64 in the triage tent for "general sick call" and five in the emergency room, according to medical officials.

One of the five was a Pakistani man in "respiratory distress," according to CDR Tom Davis, MC, the detachment's chief of professional services. He said the man was breathing really fast and working hard to take each breath. After administering a "breathing treatment"—intravenous fluids, medication, and supplemental oxygen—medical team members began loading him into a local ambulance for transport to a local hospital. But as they were loading him, Davis said, the man began to have problems.

"We realized he couldn't survive the trip to the hospital so we brought him back in and intubated him," Davis said. After the man's condition was stabilized, he again was loaded into the ambulance and transported to the hospital, accompanied by a Navy anesthesiologist. "That was a clean save," Davis said. "That guy would have died if we weren't here. All the MREs (Meals Ready to Eat), dust, plane rides, and living in tents ... everybody forgets about that when you save a life like that. You realize that's why we're here ... when you save a life, that trumps everything else."



LTJG Brookes Englebert, NC, (right), LT Robert Barrett, NC, (left), and HM3 Althea Caraballo tend to Muhammad Siab Khan in the emergency room tent in Shinkiari, Pakistan. Siab Khan was suffering from acute coronary syndrome and was later transferred to a local hospital for further care. Photo by Fred Zimmerman, *Stars & Stripes*

Another man seen in the emergency room was Joveo, whose pelvis was broken in three places by a beam that fell on him in the school where he taught in Balakot, Pakistan, during the Oct. 8 earthquake. Twenty children died in his school, he said, adding that the quake also claimed one of his sons, his mother, father, and two brothers. Joveo said in his town of Hanghari entire families died in one of every 10 homes. He was carried into the emergency room by several corpsmen on the bed in which he's spent the past 5 weeks.

Most of the patients were seen the first day for things like fever, sore throat, earache, and stomach ache, according to HN Garrett Castro, a corpsman with Bravo Surgical Company. Whatever the problems are, Castro said, he was happy to help. □

—Article by Fred Zimmerman. Used with permission from Stars and Stripes, a DOD publication. © 2005 Stars and Stripes.



LT Oksana Hirniak, MC, examines the 2,000th patient treated at the field hospital in Shinkiari, Pakistan.

USMC photo by Scott M. Biscuiti

group's medical facility opened for business 17 November.

On-site, CMRT-3 has an emergency room, operating room, triage tent, laboratory, pharmacy, X-ray lab, and dental clinic. For care beyond what CMRT-3's facility can offer, the unit is able to medically evacuate patients to local Pakistani facilities for further treatment. Officials said the team's four ambulances brought from Okinawa have conducted many evacuations.

"It's deeply gratifying to know that we've had such a significant impact," CDR Tom Davis, MC, CMRT-3's senior medical officer, was quoted as saying in the release. "It's emotionally trying to witness the suffering of the Pakistani people but it feels good knowing you're making a difference one life at a time."

One medical officer said treating the children of Pakistan lets her impact the future.

"It is very rewarding to treat kids," Navy LT Oksana Hirniak, general medical officer from 3d Marine Logistics Group, was quoted as saying in the release. "It puts things in perspective helping young children because they'll remember the U.S. doctors 20 years from now. It makes a positive and lasting impression." □

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Okinawa Medical Unit Treats its 2,000th Patient in Pakistan

Just 2 weeks after opening its doors in Pakistan, the deployed medical unit from Okinawa's 3rd Marine Logistics Group (MLG) recently saw its 2,000th patient in the mountain town of Shinkiari.

The group, which now has been dubbed Combined Medical Relief Team-3 (CMRT-3), is made up of more than 200 III Marine Expeditionary Force and 3rd MLG Marines and sailors including the Bravo Surgical Company from 3rd Medical Battalion.

The team is seeing about 200 patients a day, according to a CMRT-3 news release.

"We're treating patients from sunup to sundown," Marine CAPT Danny Chung, CMRT-3 spokesman, was quoted in the release as saying.

"The medical and support staff are well trained and experienced, as many took part in the humanitarian aid provided to Indonesia and Sri Lanka after the (December 2004) tsunami."

The deployed doctors, nurses, and corpsmen have been treating patients for injuries such as pelvic fractures, respiratory and cardiac diseases, infections and burns, according to officials. Numerous surgeries, intubations, and dental procedures also have been performed since the

Important Document: 2005 National Strategy for Maritime Security

As members of Navy medicine it is vital that we become aware of key documents outlining national security policy for the accomplishment of national objectives.

In September 2005, the White House issued the National Strategy for Maritime Security, a 27-page document you can access at www.whitehouse.gov/homeland/maritime-security.html.

It outlines the importance of maritime domain as 80 percent of the world's commerce is transported by sea. Three main sections cover threats to maritime security, strategic objectives, and strategic actions. The document should be read as a whole but this review will highlight aspects of interest to Navy medicine.

The preamble to the document states that "maritime security is best achieved by blending public and private maritime security activities on a global scale...." It also states that the National Maritime Strategy aligns all federal government maritime security programs into a cohesive national effort involving appropriate federal, state, local, and private sector entities.

This means military treatment facilities must interact and understand their respective state, local, and civilian disaster response plans as well as help shape the expectations of local officials before a disaster happens.

It is all too common for state and local officials to look at the military for an expedient solution, but there are bureaucratic as well as actual limitations to what a military base can do. A classic example is expecting a naval hospital involved in caring for recruits to rise to the same level as a Naval Medical Center San Diego, or a National Naval Medical Center Bethesda in treating mass casualties.

The strategy contains eight supporting plans. Among those that should be of interest to Navy medicine leaders are the interim operational threat response plan and the maritime infrastructure recovery plan.

When reading these eight plans, think of how Navy medicine's assets can be brought to bear in a national maritime emergency. One such clearly defined section of the document is minimizing damage and expediting recovery on page 11. It discusses the recovery effort of Hurricane Katrina in which the hospital ship USNS *Comfort* played a crucial role as the only hospital in New Orleans for many weeks. Expanding the capability of the hospital ship to respond to this domestic emergency required a quick reaction and plan by several military treatment facilities which augmented *Comfort* with medical personnel. As I read the document, I also thought of the large deck amphibious ships that were augmented with medical personnel and stood ready to respond to Hurricane Rita.

One interesting aspect of the strategy is coordination with foreign governments and international organizations. This brought to mind the over 60 countries that provided material and financial support to Americans impacted by Hurricane Katrina. Little Rock Air Force Base became a hub of activity as C-130s and other military cargo planes from Egypt, Tunisia, Israel, Greece, Romania, Chile, and many other nations disgorged tons of humanitarian aid for Hurricane Katrina victims.

This outpouring of support and becoming familiar with the Maritime Strategy has convinced me that building relationships with the military medical and crisis response professionals from other nations will be crucial in the decades to come. Take time to orient yourself to the president's views on maritime security and add your voice in the pages of *Navy Medicine* regarding creative ways to enhance our nation's security using our unique military medical capabilities. □

—Story by LCDR Youssef Aboul-Enein, MSC, USN, Plans, Operations and Medical Intelligence Officer, Middle East and Islamic Militancy Advisor, Office of the Secretary of Defense.

Navy Social Worker Inaugurates “Joint Forces” Effort

Navy social work joins forces with the Army social work in the treatment of children and families of service members in the DC area. LT Dan Norton, MSC, is the first Navy social worker to be admitted to the prestigious Social Work Fellowship in Child and Family Practice located at the Walter Reed Army Medical Center in Washington, DC.

This premiere training program combines social workers and child psychiatry fellows in an academic experience of advanced didactic presentations, live supervision of actual clinical work, instruction from visiting consultants with the latest knowledge in assessment, diagnosis and treatment, and state of the art professional presentations of cases.

The 40-year-old fellowship is an intense 2-year program that provides clinical social workers in the military a rare and unique educational opportunity to advance their skills in the evaluation and treatment of children and families. The expertise acquired in this training is especially important in a time of war when service member families experience the increased stress of deployment, mobilization, and the subsequent trauma of families relocating and parents separating from their children. A number of families in this population have experienced the grief and bereavement that comes with serious physical injuries and sometimes death sustained by family members. These stressors, unless appropriately alleviated and managed, can often lead to emotional maladjustments that may result in major disruptions and even the destruction of the family. These family pressures are frequently manifested by children and adolescents acting out their pain in personally destructive and anti-social behaviors.

The fellowship is a wonderful opportunity to gain specialized skills for assessing and treating children and families that can be operational in remote areas where this type of expertise is so badly needed. The Army social work fellowship program specifically addresses these war-time issues and prepares the already experienced licensed social worker to really understand the devastation experienced by these families and to skillfully evaluate and apply interventions that promote resolution and healing.

LT Norton has the highest praise for the academic training received in the fellowship and the clinical tools and skills he has acquired since he started the fellowship

a year ago. Under the direction of Dr. Dean M. Rueckert, DSW, LCSW-C, the fellowship program can admit only two military social workers each year. “We were very happy to have a Navy social worker express interest in our program. Dan actually flew back from Japan to interview for the program, and from that point on the two of us pushed for the joint service venture that we felt could benefit both branches of the service. LT Norton is bright, highly enthusiastic, and willing to learn and we were excited about the opportunity to share knowledge and experience with each other.”

LT Norton now attached to NMETC (Naval Medical Education Training Command), and attending the fellowship says, “This is a wonderful opportunity at a time when all of us can join together and assist our service member families. It is really an honor to be here.” □

—Story by COL Yvonne L. Tucker-Harris, MSC, USA, Chief of the Department of Social Work, Walter Reed Army Medical Center, and the Army’s Social Work Consultant to the Surgeon General of the Army.

Ship Shape Program Improves Lives for Mid-Atlantic Sailors

Ship Shape, an 8-week program that was designed to help sailors with weight loss, is being offered by Sewells Point Branch Medical Clinic health promotion office. “Ship Shape was designed to help active duty military personnel who are not within the Navy’s height and weight standards,” said Christine McGrath, a nurse educator at the health promotion office.

The program provides participants with information on nutrition, stress management, physical activity, and behavior modification techniques.

“We usually start off with 25 people each session,” said McGrath. “Each



AA Sebastian Pratt from the aircraft carrier *Carl Vinson*’s transportation center works on getting into shape while doing a set of reps on the bench pressing machine at the Waterfront Sports Complex aboard Naval Station Norfolk VA. Photo by JO2 Maja Dyson

person is allowed to miss only two sessions. However, we encourage that they do their best to attend every single one, because each is important.”

Nancy Cardinal, a health educator at the Sewells Point Branch Medical Clinic health promotion office, said different topics are taught each session. “One thing we stay consistent with during our training is having people track their calories and fat intake,” said Cardinal. “This is a very important factor in losing weight because if people don’t pay attention to how many calories and fat they’re taking in, how are they going to manage the count. Another thing we teach is label reading.”

McGrath and Cardinal said nutrition has changed throughout the years and this program is a great way for people to begin losing weight during a short term. “Our goal is for each person to lose at least 5 pounds,” said McGrath. “Because the program is every Thursday from 1330 to 1500 for 8 weeks, it is very possible for them to reach that goal.” A dietician from Farm Fresh also teaches the participants about some shopping techniques and gives “eating right” tips.

Active duty personnel interested in participating in the Ship Shape program during duty hours need a recommendation and referral from their commanding officer through their command fitness leader.

“Nothing tastes as good as feeling fit,” said McGrath. “There are doers and there are stewers. Which one are you?” □

—Story by JO3 Maja Dyson, USN, Fleet Public Affairs Center, Norfolk, VA.

As a result, the VA is “giving them priority and making sure we are taking care of their physical and mental needs so they can continue to enjoy productive lives,” he said.

Seeing the nation’s young people return home from combat reinforces the message that freedom comes at a high cost, Nicholson said. “Freedom is not free, and they are paying the ultimate price. And so, they will be taken care of and given whatever (healthcare and related assistance) they need ... for the rest of their lives.”

“It’s gratifying to watch the recovery these wounded veterans make, particularly when hearing many of them say they want nothing more than to return to duty with their units,” Nicholson said.

But for those unable to do that, Nicholson said, the VA’s responsibility is to help them see beyond their wounds and recognize that they can continue to live productive lives. “That’s part of our mission, to show them all the things they still can do and not have them focus on the things they can no longer do,” he said.

While the nation gave special consideration to its veterans during the week, the VA continued its long-standing commitment to the nation’s veterans year-round. For the past 75 years, the VA has provided health services and other benefits to veterans, living up to the promise made by President Abraham Lincoln during his second inaugural address: “To care for him who shall have borne the battle and for his widow and his orphan.”

Over its history, the VA has created the world’s most comprehensive system of assistance for veterans, including what Nicholson described as “world-class healthcare.” Some 237,000 VA professionals provide healthcare to more than 5 million veterans through 187 medical centers and 860 outpatient clinics.

A computerized medical record system—one Nicholson said he hopes will serve as a model for the Defense Department and other organizations—helps eliminate hospital mix-ups and ensures more thorough patient care, he said.

In addition, the VA remains a leader in medical research, from studies involving Parkinson’s disease to a recent breakthrough in immunizations for shingles, he said. Congress and the administration have demonstrated, through increased funding for VA healthcare, that they remain committed to ensuring veterans receive the top-quality services they deserve. VA funding has increased more than 50 percent since 2001, he noted.

“Veterans of every era can rest easy knowing that access to what has been described as the finest integrated healthcare system in the country will remain undiminished, especially for low-income veterans, those with service-connected disabilities (or) special needs, or who have recently returned from combat,” Nicholson said. □

—Story by Donna Miles, American Forces Press Service.

NAMRU-2 Assists Sri Lanka to Prepare for Infectious Disease Outbreaks

Understanding Disease Outbreaks and Developing Rapid, Coordinated Response

As the world anticipates an emerging Influenza A pandemic caused by the H5N1 subtype (so-called, “bird flu”), it also wonders which countries are prepared to identify and mitigate an outbreak before it spreads beyond its borders. Many developing countries in the Asia Pacific region do not have the resources to monitor for disease outbreaks or to investigate and intervene when epidemics occur. In response to this need, NAMRU-2 in Jakarta, Indonesia offers training in infectious disease outbreak detection and intervention as part of its commitment to build the surveillance capacity of partner nations. NAMRU-2 provides this service with support from the Department of Defense Global Emerging Infections System (GEIS).

From the remote island of Nias in Indonesia to the jungles in Laos, NAMRU-2 has assisted public health officials to develop monitoring systems of significant diseases of epidemic potential and the investigative methods to develop rapid, coordinated responses to community outbreaks. The Asia Pacific Economic Cooperation (APEC) and the World Health Organization (WHO) have included the workshop as part of their regional health sector capacity building initiatives, recognizing NAMRU-2’s novel outbreak response training curriculum for its contribution to promoting public health in developing Asian and Pacific countries.

The strategy is simple. Train a diverse group of core healthcare professionals from the clinical laboratory science, clinical medicine, epidemiology, entomology, and veterinary medicine fields so that they develop the skills necessary for effective responses to disease outbreaks. The key component of this training workshop is empowering participants from these diverse professions to make effective and coordinated outbreak response.

Simultaneously, NAMRU-2 has assisted collaborating nations by supporting indigenous biomedical research capabilities, developing public health infrastructure and providing consultation to investigate outbreaks. NAMRU-2’s research has provided new insight into emerging and re-emerging bacterial, viral, and parasitic diseases that have the potential to cause epidemics in humans and disrupt military operations. NAMRU-2 conducts disease surveillance to characterize the activity of disease threats in human populations, vector transmission patterns, drug resistance, human immunological responses to specific infections, and molecular characterization of pathogens for vaccine development.

NAMRU-2 was invited to Sri Lanka to assist the Ministry of Health in enhancing their outbreak response skills. This country of 19 million has been mired in years of armed ethnic conflict and on 26 December 2004 was devastated by the Asian tsunami. Sri Lanka faces emerging and re-emerging infectious disease threats, including influenza, malaria, dengue, filariasis, rabies, and leishmaniasis. Moreover, Sri Lanka is preparing for a possible H5N1 influenza pandemic. Supported by the U.S. Pacific Command, Global Emerging Infections System, and the Defense Attaché at the U.S. Embassy, Colombo, NAMRU-2 organized its 12th Outbreak Surveillance and Response Training Workshop.

Thirty-nine microbiologists, entomologists, physicians, epidemiologists, and preventive medicine public health officers from the Ministry of Health, major teaching universities, and the Armed Forces gathered for the 10-day workshop in the southwest coastal village of Bentota. They were there, Sri Lanka’s chief epidemiologist, Dr. Nihal Abeysinghe, said at the opening ceremony, “to im-

Photos courtesy of NAMRU-2



NAMRU-2’s Indonesian colleagues, Dr. Narain Punjabi and Dr. Cyrus Simanjutak, demonstrate the use of a Vacutainer® system to collect blood.

prove our skills and bring back new ways to improve the health of the Sri Lankan people."

NAMRU-2 personnel, including a physician, entomologist, epidemiologist, and microbiologist, as well as regional leaders from the Ministries of Health of Indonesia, Vietnam, Cambodia, and Sri Lanka shared knowledge, skills, and investigation experiences. CAPT Corwin, an epidemiologist with over 20 years of outbreak investigation experience, led the workshop and facilitated energetic discussions on investigation methods. Dr. Glass reviewed diseases of epidemic potential and the importance of surveillance in disaster response. LT Stoops, an entomologist, discussed the role of insects in disease transmission and how understanding the insect vectors of disease provides clues to the origin of outbreaks and the means to control it. Dr. Gindo Simanjutak, a veterinarian and researcher with the Indonesian Ministry of Health, with over 40 years of experience, discussed the relationship between animals and human diseases. LCDR Blair, a microbiologist, Dr. Luong Chan Quang from Vietnam's Ministry of Health, and Dr. Mam Bunheng from Cambodia's Ministry of Health discussed the region's experiences with avian influenza and human H5N1 cases.

Lecturers instructed participants in a wide variety of laboratory and field epidemiology skills from using the Vacutainer® system to collect multiple blood specimens with one needle stick to developing a database to record and analyze data. Participants got hands-on experience constructing databases for an epidemiological investigation, planning the supply list for an investigation, and interpreting data from outbreak scenarios. They solved practical investigational problems in small groups using real-life and hypothetical scenarios. Participants also had an opportunity to engage lecturers, thereby applying the academic lessons to practical experiences and scenarios relevant to Sri Lanka. Participants shared their experiences with lecturers and each other. For example, the epidemiology unit described the diseases observed with surveillance after the tsunami and lessons learned. Similar to the experience of other countries, participants acknowledged the integral role of national and international military forces in providing helicopter and airplane supply transportation and re-establishing supply lines to remote areas as well as rapidly deploying medical units to address the health needs of the communities.

This exercise also served as a rare opportunity for healthcare providers from diverse professions to critically examine what each could bring to an outbreak investigation. For example, one of their first lessons was to devise an equipment list for an outbreak investigation of a specific clinical syndrome. It sounds like an easy enough task, but in the end taught participants a valuable lesson:

without coordinating with other professionals, an investigation may not collect the right samples and, therefore, would not gather the most critical information to identify the disease and its source.

In the second week the workshop took a brief timeout for an unexpected development. The Ministry of Health used the skills and momentum generated from this workshop to design and organize a multidisciplinary outbreak response committee. This group's primary objectives were to develop syndrome-specific protocols for rapid responses to suspected outbreaks, be available for expert guidance in outbreaks, and form a national outbreak investigation resource and training unit. This addresses a problem that impedes many investigations: very often professions work in isolation and create errors and ineffective investigations. Clinicians may be versed in creating a differential diagnosis and managing patients, but lack the laboratory knowledge to collect and store the right specimen or the epidemiological expertise to design an appropriate investigation. Similarly, microbiologists may understand how to conduct laboratory investigations, but do not have the training to put the results in a clinical context.

This action taken by the Ministry of Health illustrates the greatest value of NAMRU-2's workshop: the free exchange of knowledge, experiences, and ideas across healthcare disciplines, governmental organizations, and cultures. Participants and NAMRU-2 both came away with greater understanding of emerging and re-emerging diseases affecting South Asian populations and new ways to design and execute coordinated responses. □

—Story by LT Jonathan Glass, MC, USNR, LT Craig Stoops, MSC, USN, LCDR Patrick Blair, MSC, USN, and CAPT Andrew Corwin, MSC, USN (Ret.) are assigned to NAMRU-2, Jakarta, Indonesia.



Participants from the Ministry of Health and the Armed Forces work in a small group during a problem-based learning session.

Avian and Pandemic Influenza (Flu)

Avian influenza (flu) is a contagious disease that normally affects only birds and, less commonly, pigs. Recent outbreaks of avian flu among birds in Asia and Europe have resulted in the quarantine and destruction of millions of domesticated birds in an effort to keep the virus from spreading worldwide. Although avian flu does not readily spread to humans, there have been documented cases where people have been infected by the virus and became ill or died. Scientists are concerned that the avian flu virus has the potential to cause the next worldwide (pandemic) flu, potentially resulting in the severe illness and death of millions of people. Local, national, and global efforts are underway to develop and implement an effective strategy to combat this potential health threat.

What is avian influenza?

Avian flu is an infectious disease in birds caused by a virus called H5N1. The H5N1 virus is carried in the intestines of wild birds and can be found worldwide. Wild birds are variably resistant to the virus and may not get sick. However, the disease is very contagious and more severe in domestic poultry such as chickens, ducks, and turkeys. It can quickly infect and kill large numbers of these birds. Recent outbreaks of the avian flu in poultry farms in both Asia and Europe have resulted in the quarantine and destruction of millions of birds in an attempt to control the spread of the virus.

Can avian flu infect people?

The H5N1 avian flu virus does not usually infect species other than birds (and less frequently, pigs), but more than a hundred cases in humans have been documented since 1997. Scientific investigations have determined that close contact with infected birds allowed the avian virus to be transmitted to humans. Subsequent bird outbreaks have resulted in additional human cases, some resulting in deaths, which have alarmed public health officials because of the severity of the illness and the high death rate.

How is avian flu spread?

Infected birds shed the H5N1 virus in their saliva, nose secretions, and feces. Other birds become easily infected when they come into contact with these excretions or surfaces recently contaminated with them. It is believed that most human cases of avian flu infection resulted from contact with infected birds or contaminated surfaces. So far, direct spread of the H5N1 avian flu virus from person to person has not been confirmed.

What is pandemic flu?

Pandemic flu is a global outbreak of disease that occurs when:

- A new influenza virus appears in the human population.
- Causes serious illness or death.
- Spreads easily from person to person.

There have been three previous occurrences of pandemic flu in the 20th century. These flu pandemics occurred in 1918-19 (the Spanish flu), 1957-58 (the Asian flu), and 1968-69 (the Hong Kong flu). The Spanish flu was the most severe pandemic flu on record, killing more than 500,000 people in the United States and an estimated 50 million people worldwide. Nearly half of those who died were young, healthy adults.

The Asian flu and the Hong Kong flu were both caused by viruses containing a combination of genes from human and avian influenza virus. There is also growing evidence that the Spanish flu pandemic originated with a type of avian flu. Scientists now believe the H5N1 avian flu virus has potential to cause the next pandemic flu.

How can H5N1 avian flu cause a new pandemic flu?

The H5N1 avian flu virus currently circulating in Asia and Europe does not easily spread from person to person. However, viruses are constantly changing, adapting, and evolving. There is growing concern that if the virus com-

Fact Sheet

bines and mutates with seasonal flu, it may develop into a new strain capable of spreading quickly and efficiently throughout the world's population.

When will the next pandemic flu hit the United States?

The H5N1 avian flu virus is still primarily a disease of wild and domestic birds but rarely other livestock. We cannot say with certainty when (and if) this virus will cause the next pandemic flu outbreak. Pandemic flu occurs naturally and it is not possible to accurately predict the timing or severity of such diseases.

How will pandemic flu spread from person to person?

Pandemic flu is spread primarily through "respiratory secretions," the same way the common cold, seasonal flu, and other respiratory infections are spread. Respiratory secretions are virus-containing droplets (such as mucous or spit) that are dispersed into the air when an infected person coughs or sneezes. These droplets can then be inhaled directly into the body through the nose or mouth or be picked up from a contaminated surface and spread from one's hand to the mouth or nose.

Will my seasonal flu shot provide protection?

Your regular seasonal flu vaccine will not provide protection from either the H5N1 avian flu or a new pandemic virus. However, it protects against seasonal flu illness and may prevent the mixing of avian and seasonal virus, helping decrease the chances of a new pandemic flu virus.

Are there medications that treat avian flu or pandemic flu?

There is some evidence that anti-viral medications, such as oseltamavir and zanamavir, are effective in treating flu caused by the H5N1 virus. To be effective they must be given within the first 2 days of onset of illness. Additional scientific studies are ongoing to verify their effectiveness.

What can I do to protect myself from pandemic flu?

People can protect themselves from pandemic flu the same way they protect themselves from getting the common seasonal flu. Begin now to practice the following simple, but important habits:

- Cover your mouth and nose when sneezing.
- Properly dispose of soiled tissues.
- Practice good hygiene with frequent hand-washing.
- Avoid close contact with sick people and stay home when you are sick.

• Stay informed of local, state, and national news and reports on treating and controlling the disease.

What is our country doing to protect us from pandemic flu?

Current planning for pandemic flu includes improving worldwide monitoring for the appearance of new flu viruses, procuring and stockpiling anti-viral medications, researching the development of new vaccines, and improving overall communications regarding this emerging health threat.

A national strategy for pandemic influenza was also signed by the President of the United States and distributed on 1 November 2005. This plan outlines our national goals for preparedness and communication, surveillance and detection, and overall response and containment.

The Navy/Marine Corps have responded by developing Pandemic Flu Response Plans for each Military Treatment Facility. Site-specific Public Health Emergency officers have been assigned at each to implement these plans as quickly and efficiently as possible.□

For additional information, please contact your local healthcare professional or refer to:

<http://www.whitehouse.gov/homeland/pandemic-influenza.html#section01>

<http://www.cdc.gov/flu/avian/gen-info/pandemics.htm>

<http://www.who.int/csr/disease/influenza/pandemic/en/>

<http://www.deploymentlink.osd.mil>□

Joint U.S./Philippine MEDCAP during Talon Vision/PHIBLEX 06

U.S. Navy and Marine Corps and Armed Forces of the Philippines (AFP) medical personnel conducted Talon Vision and Amphibious Landing Exercise (PHIBLEX) 06. The exercise provided medical care to more than 800 local residents of Gawad Kalinga Village, Barangay Santa Juliana, Capas, Tarlac, 23 October.

The Medical Civil Action Project (MEDCAP) is part of the continuing U.S. humanitarian assistance to the Philippines at the invitation of that government. The humanitarian effort is a joint effort between the AFP and U.S. servicemen not only to train and work together, but also to benefit the local community.



LT Val Smalley, MC, and HM1 Joel Clemente examine the wrist of an elderly woman who traveled from a nearby village seeking medical care on 23 October 2005. U.S. Navy photo by LT Ed Sisk

LTJG Sherri Garrett, a chaplain assigned to Marine Service Support Group (MSSG) 31, felt the combined effort benefitted everyone, especially the children who were brought for medical checkups. "This is such outstanding work. The people are very receptive and the children are wonderful," said Garrett. "It is such a blessing to be able to serve so many people."

The combined effort and teamwork of medical personnel from the U.S. Navy, and AFP provided basic health checkups and medicine to children, expectant mothers, elderly, and those with illnesses. Medical care included medical screening, dental care, minor surgery, and medicine.

MAJ Melquiades Ordiales, civil military operations planner for the Philippine Marines, said the joint and combined effort between the Philippine and U.S. military during this MEDCAP provided much needed medical care.

"We saw over 900 people, and our medical staff of 50 Philippine Marine, Philippine Air Force, U.S. military doctors, and civilian dentists provided basic medical and dental care. The care provided goes a long way in helping the local community where medical care like this is very rare," said Ordiales.

HM1 Joel Clemente, attached to III Marine Expeditionary Force (III MEF) Special Operations Training Group (SOTG), and a Philippines native, said the MEDCAP had very special meaning to him. He had come with his medical group to help in the project not knowing that the local people of this community also spoke his native dialect of Kapangpangan. "At first the people were stunned that I spoke their dialect," said Clemente. "They were so appreciative with big thank you's and smiles on their faces like it was Christmas. It's all about helping people and we're doing that here." □

—Story by Task Force 76 Public Affairs.

Military Health System Enters New Era

The Department of Defense achieved a major milestone with the launch of AHLTA, its global electronic health record system, at a ceremony hosted by Dr. William Winkenwerder, Assistant Secretary of Defense for Health Affairs, and attended by Michael O. Leavitt, Secretary of Health and Human Services, at the National Naval Medical Center in Bethesda 21 November 2005.

AHLTA is the largest, most significant electronic health record system of its kind with the potential to serve more than 9 million service members, retirees, and their families worldwide. When fully implemented, about 60,000 military healthcare professionals at DOD medical facilities in the United States, and 11 other countries will use this electronic health record system.

Beneficiaries health records will be available around the clock and around the world, to healthcare providers, yet protected from loss and unauthorized access," said Winkenwerder. "Our electronic health record has matured to a point that its size and complexity are unrivaled. Most

importantly, this new system was built in partnership with America's leading information technology companies."

Today, many thousands of military medical providers are using the system, and nearly 300,000 outpatient visits are captured digitally every week. Full deployment of the system in DOD's 800 clinics and 70 hospitals will be complete by December 2006.

"With the roll-out of AHLTA, the Department of Defense has made a great step toward achieving President Bush's goal of making electronic health records available to a majority of Americans within 10 years," said Leavitt. "The lessons we learn from an initiative of this geographic scope and patient base will prove invaluable for future private and government health systems."

The longer term vision, expected to be achieved in the next 2 to 3 years, is a continuously updated digital medical record from the point of injury or care on the battlefield to military clinics and hospitals in the United States, all completely transferable electronically to the Veterans Health Administration.

A massive training program for AHLTA is currently underway in DOD's medical community to ensure all who have access to the system are properly trained in usage and health record security.

More information on AHLTA can be found on their Web site at www.ha.osd.mil/AHLTA. □

—Special release from the U.S. Department of Defense

The STRATCOM website acknowledges their new responsibility to combat WMD and indicates that it is in its formative stages.(2) Among the items they are assessing is the distribution of subject matter expertise and defining relationships with other agencies and foreign nations. This is a rare opportunity for Navy medicine leaders to interject their views on the capabilities and limitations our service brings in terms of consequence management response. As *Navy Medicine* Book Editor, I urge discussion on new ideas regarding what our community brings in terms of expertise and capabilities for responding to the treatment and vaccination against WMD incidents. Share with your colleagues your views in the pages of *Navy Medicine*. Finally, if you wish to enhance your understanding of WMD response and plans, here is a list of recommended reading for the novice:

·Joint Publication 3-12: Doctrine for Joint Nuclear Operations.

·Joint Publication 3-40: Joint Doctrine for Combating Weapons of Mass Destruction.

·The Defense Threat Reduction Agency (DTRA) located in Fort Belvoir, VA, and its website <http://www.dtra.mil> contain a wealth of information and tools worth examining. The Consequence Assessment Tool Set helps plan for major crisis events such as the Olympic Games and hurricane response and predicting the shape of hazard areas caused by earthquakes, hurricanes, or chemical, biological, radiological, nuclear or explosive events.

Notes:

(1) Defense Building: The U.S. is looking to Strategic Command and the DOD to lead the battle against weapons of mass destruction by David Siegrist. *Jane's Defense Weekly*. 2 November 2005;42(44):24-29.

(2) United States Strategic Command Website <http://www.dtra.mil> accessed 30 November 2005. □

—Story by LCDR Youssef Aboul-Enein, MSC, USN, Plans, Operations and Medical Intelligence Officer, Middle East and Islamic Militancy Advisor, Office of the Secretary of Defense.

Strategic Command Leads Fight Against WMD: Navy Medicine's Fit?

In January 2005, Defense Secretary Donald Rumsfeld assigned the United States Strategic Command (STRATCOM), located at Offutt Air Force Base, NE, the leading role in the integration of all Defense Department efforts to combat weapons of mass destruction (WMD). The 2 November 2005 edition of *Jane's Defense Weekly* has an article by David Siegrist that I encourage all Navy medicine colleagues with an interest in disaster preparedness and consequence management take time to read.(1) The article distills the three pillars of Non-Proliferation, Counter-Proliferation, and Consequence Management that STRATCOM has outlined.

Perhaps the most important aspect of these three pillars to Navy medicine is consequence management which contains sub tasks coordinating operations, conducting logistics, as well as health service support and decontamination.

Officer on Her Way to Receiving Her Ph.D Thanks to the Navy

Thanks to the Navy, LTJG Lisseth Carmen Calvio is fulfilling a lifelong dream of pursuing a career in clinical psychology. Calvio came to the United States with her mother from El Salvador when she was only 4

years old, fleeing from the civil war in her country to start a new life for herself. Leaving everything behind, she arrived in Passaic, NJ, with nothing but her dreams and hopes of surviving.

As a child, Calvio dreamed of becoming a medical doctor, but her family did not have the means to send her to college. Things started to go Calvio's way when she got involved with the Navy through a Navy Junior ROTC program during high school. She joined the Navy right out of high school and later received a scholarship from the Navy to attend Howard University and the George Washington University, where she earned her undergraduate degree and was commissioned as an officer.

Recently, the Navy awarded her another scholarship to obtain both her masters and Ph.D. through the Uniformed Services University of the Health Sciences Medical Psychology Program. Through this program, the Navy pays for her tuition and also gives her a salary for attending graduate school full time.

In addition to the educational benefits, Calvio's job in the Navy has given her experience in the engineering, unrestricted line officer, and medical service fields, and exposed her to many exciting experiences such as the opportunity to navigate a ship, dive a submarine, and fly a helicopter.

"My experience in the service has helped me enrich my life professionally and personally," said Calvio. "As an officer in the Navy, I bring pride to my family and community. I am also able to assist my family financially. Family is important to me and the fact that I can travel the world, earn my degrees, and help support my family is indicative that the Navy was the right choice for me."

The Navy has provided Calvio with so many exciting opportunities, like traveling the world and visiting five continents, as well as the advancement of her education. Being in the Navy has given Calvio security and a career; and she attributes her success to taking advantage of the many opportunities the Navy has to offer.

"When I reflect on my life, I am humbled by the fact that a small village girl from El Salvador was given the opportunity to go sightseeing in Singapore, relax in the Seychelles, taste the local cuisine of Sicily, and teach salsa lessons to a small town in Alaska," said Calvio. "The Navy has opened my eyes to the world, and for that I am thankful." □

—Story from Navy Recruiting Command, Public Affairs Office, Millington, TN.

NH Jacksonville Senior Chief Awarded Bronze Star

In a Hospital Quarters ceremony on 21 October 2005, CAPT Raquel Bono, Commanding Officer of NH Jacksonville, presented HMCS(SW/FMF) James R. Perry the Bronze Star Medal on behalf of the President and the Secretary of the Navy.

Bono said of Perry's heroism, "Senior Chief Perry exemplifies the type of hero who I am honored to work with every day. His actions and his service make a difference, not only to the task force where he served in Afghanistan, but to our staff at Naval Hospital Jacksonville. We are fortunate to have a sailor of his caliber in our midst."

Perry, who is the Leading Chief Petty Officer in Naval Hospital Jacksonville's Ancillary Services Department and who has also served at the NAS Jacksonville Branch Health Clinic, was cited for his actions while deployed in Afghanistan from 3 January to 1 May 2003. Perry has three war zone deployments to his credit, two in Afghanistan and one in Iraq.

While in Afghanistan, Perry was the Leading Chief Petty Officer of a task force conducting operations against Al Qaeda and Taliban forces.

The hospital corpsman helped plan and execute several Medical Civilian Action Program operations, treating more than 3,500 local village and Afghani military personnel.



Commanding officer CAPT Raquel Bono, MC, pins the Bronze Star medal on HMCS (SW/FMF) James R. Perry in a 21 October Hospital Quarters ceremony. Photo by HM1 Michael Morgan

Perry volunteered for a dangerous mission providing medical coverage during a task force operation to secure and search numerous caves suspected of containing Al Qaeda chemical and biological weapons. Traveling on vehicles and on foot, Perry and his team passed through heavily mined areas. Perry personally flew on eight combat medical evacuation flights to transport wounded or injured members of the task force to medical care, as well as assisting in the recovery of six deceased service members in hostile territory.

Slightly embarrassed by all the attention, Perry said modestly, "I don't feel that I deserved all this. I was just doing my job. There are so many young hospital corpsmen that have done far more than I have and have gotten far less." He said his time in Afghanistan was "the experience of a lifetime, something I'll never do again." And he described the camaraderie with the task force as "great and very professional." □

—Story by Loren Barnes, Public Affairs Officer, Naval Hospital Jacksonville.

keep quiet, you can do more harm that way. Tell someone in the chain of command. Make sure the chaplains and appropriate personnel know." According to Goodwin, while there is no absolute sign that someone is in danger of taking their life, most have a hard time hiding personal struggles, engage in drug or alcohol abuse, and have strong feelings of guilt. "One indicator that we see a lot is sailors giving away their personal belongings and making final plans," she said. The Navy offers suicide prevention training through its Fleet and Family Support Center with experienced mental health professionals and substance abuse programs. Base chaplains are also available to help, with chapels regularly offering suicide prevention training. The goal is to "pair up those who need help with professionals," Doran said. "We don't have suicide support groups, but commands might have a depression support group or any number of services to help an individual deal with suicidal thoughts." For more information on suicide prevention, visit the Navy One Source Web site at www.navyonesource.com. Individuals may also call (800) 540-4123 for help 24 hours a day, 7 days a week. □

—Story from Navy Personnel Command Communications, Millington, TN.

Navy Personnel Urged to AID LIFE in Suicide Awareness, Prevention

The Navy's Fleet and Family Support Centers have launched "AID LIFE," a suicide awareness and prevention campaign to offer the Navy community watchdog tips for saving lives. The suicide prevention campaign is aimed at first responders—anyone who notices the warning signs of suicide and takes preventive action. AID LIFE is designed to make everyone aware of the warning signs and prompt them to intervene with those at risk."Every life and every sailor is important, and the Navy leadership views the loss of one sailor as a serious loss," said Dr. Tony Doran, director of the Navy's Suicide Prevention Program at Navy Personnel Command (NPC). "The key message is that anyone in the Navy can save lives. Whether you are a junior-level sailor, a captain, active duty or reserve, you can help people before it's too late." AID LIFE is also a step-by-step memory aid on what individuals should do if they encounter someone who may be suicidal. Ask, intervene immediately, and don't keep it a secret. Locate help, inform your chain of command, find someone, don't leave the person alone, expedite, get help right away. "Sailors should tell someone immediately if they suspect someone of being suicidal," said Melody Goodwin, ethical adviser for NPC. "If you

RDML Richard E. Jeffries, MC, has been assigned as medical officer to the Marine Corps, Washington, DC. Jeffries' prior assignment was Deputy Chief, Future Plans and Strategy, M5, Bureau of Medicine and Surgery, Washington, DC. □

HM2 Allan M. Cundanga Espiritu, 28, of Oxnard, CA, died 1 November 2005 from injuries sustained from an improvised explosive device while conducting combat operations in the vicinity of Ar Ramadi, Iraq. Espiritu was serving with the 2nd Service Support Group (Forward), II Marine Expeditionary Force (Forward). □





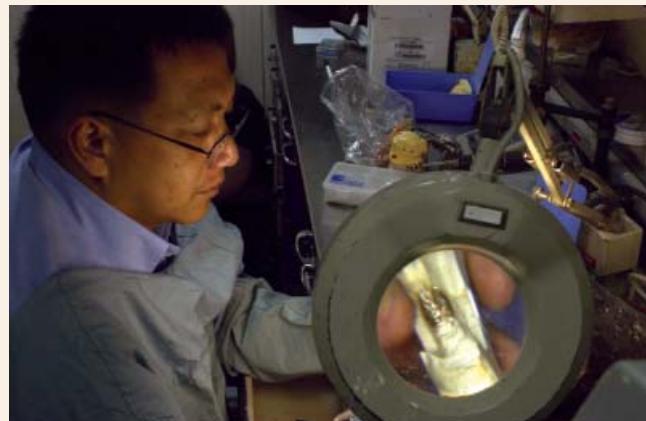
Gode, Ethiopia. HN Miami Gollyhorn looks into the ears of a local child during Combined Joint Task Force-Horn of Africa. Photo by SSGT Stephen Schester, USAF



Near Subic Bay, Republic of the Philippines. HM1 Joel Clemente talks to an elderly woman in native dialect of Kapangpangan on how to care for her wrist during Joint U.S./Philippine MEDCAP during Talon Vision/PHIBLEX 06. Photo by LT Ed Sisk



Shinkari, Pakistan. HN Timothy P. Granger holds a 3-year-old Pakistani boy during a medical evacuation after the October earthquake. Photo by LCPL Scott M. Biscuiti, USMC



Yokosuka, Japan. DT1 Valentin Saqueton crafts a dental cap to fit a plaster mold aboard USS *Kitty Hawk* (CV-63). Photo by PH Airman Matthew Reinhardt



Shinkiari, Pakistan. LT Scott Avery monitors a young Pakistani's recovery from surgery after the October earthquake. Photo by Airman 1st Class Barry Loo, USAF



Pacific Ocean. HM1 Cynthia Donaldson conducts a pre-operative procedure on a patient in the surgical operating room aboard USS *Ronald Reagan* (CVN-76). Photo by PH3 Kevin S. O'Brien



U.S. Military Hospital, Kuwait has an intensive care unit with a 6-bed capacity and expandable to 12. Photo from www.nmcp.med.navy.mil/EMF



Los Angeles, CA. ENS Frank Percy, MSC (right), a physician assistant from Naval Medical Center San Diego, works alongside a medical student from University of Southern California Medical Center to remove jewelry from a patient before a Computerized Tomography (CT) scan. Photo by JO S. C. Irwin

Camp Taqaddum, Iraq. Surgical/Shock Trauma Platoon. HN Timothy M. Vannes AND HM3 Kayla M. Long prepare a patient's IV fluids. Photo by LCPL Wayne Edmiston, USMC

Clinician Desktop Portal: Educational Tools at the Point of Care

Studies show that physicians have approximately six patient related questions per half day of clinic. Many questions are not pursued due to lack of time and poorly organized resources.⁽¹⁾ Moreover, these limitations mean that most questions cannot be answered while the patient is still in the exam room. The advent of the Internet and access online medical resources has potentially changed this situation. Online resources are becoming the resource of choice and have been shown to improve knowledge and change patient management decisions.⁽²⁾

Personal digital assistants (PDAs) could be a reasonable mobile resource but they often do not contain educational resources⁽³⁾ and have several technical limitations. Currently, desktop computers with Internet access have greater educational potential than PDAs due to various factors such as superior screen size, inputting capability and memory as well Internet access.

A web portal is defined as “a web in a World Wide Web that usually offers a search engine and/or links to useful pages, news, or other services.”⁽⁴⁾ Portals can be located on a hospital or clinic Internet or Intranet with the purpose of disseminating information to staff.

Park City Solutions, a healthcare technology and professional services firm, has pointed out the desirable characteristics of a physician web portal. It should be customizable, be “one stop shopping,” be able to drill down or up while looking at patient data, have a standard interface, have alerts, and be able to recognize the person logging on.⁽⁵⁾ A survey by Kaiser-Permanente found that clinicians sought four types of information in a portal: patient medical record data, demographics, medical science, and operational information.⁽⁶⁾

Ball Memorial Hospital in Indiana has a physician web portal that can be accessed from home or the office. Their portal offers access to electronic medical records, scheduling, medical calculators, medical journals, medical news, Internet access, and the operating room schedule.⁽⁷⁾

The Air Force provides an educational medical portal that includes a “virtual library” through a “knowledge exchange” Intranet.⁽⁸⁾ Kaiser-Permanente provides an extensive online “clinical library” as part of their “KP HealthConnect.”⁽⁹⁾

It is unknown how many hospitals offer a physician portal and what percent include educational resources. Also, very little has been published on this subject in the medical literature. In a recent survey by hospitals and Health Networks, 74 percent of the “most wired” hospitals provided a portal for access to research and reference material as opposed to 7 percent for the “least wired.”⁽¹⁰⁾

Naval Hospital Pensacola recently decided to disseminate evidence based medicine and other hospital information to their clinicians. We believe that creation of a desktop portal would accomplish this goal and reduce the need to purchase more personal digital assistants. Like a PDA, a desktop portal would provide cost effective access to important medical information at the point of care. To obviate a second log-on we elected to use our Intranet as our desktop. A link “Clinician Tools” was created on the desktop for staff clinicians in addition to links to administration, training, and the hospital internet. This program can be accessed within the hospital or clinic or from home.

Portal Sections

Antibiogram: We posted the past year of antibiotic sensitivities to 11 of our most commonly cultured organisms. In addition, this is also available as a PDA download. Also posted are oral and intravenous formulary antibiotics with proper dose, frequency, and cost.

Clinical Practice Guidelines: Hospital sponsored guidelines for dysuria, sinusitis, otitis media, pharyngitis, heart failure, DVT prophylaxis, and Type 2 diabetes are posted. The latter three clinical practice guidelines are available as a PDA download. The desktop guidelines were created using hyperlinks to synthesize complex guidelines into simple algorithms.

Disease Management: We included data on diabetes, asthma, and breast health in a Microsoft Excel format based on the military disease registry Population Health Navigator.⁽¹¹⁾ The data can be organized by physician, clinic, or lab results.

Johns Hopkins Antibiotic Guide: Free site that allows searching by diagnosis, pathogen, or antibiotic. Content is also available as a PDA stand alone program with auto-updates.

Literature requests: We created a web based form that is automatically forwarded to the librarian.

Hospital protocols: We posted important medical and non-medical protocols. Examples are the mini-mental status exam, CAGE questionnaire, depression scale, Medicare O2 requirements, etc.

Online Medical Calculators: We created links to online calculators that function like their PDA counterparts. Most are stand alone programs with the exception of MedCalc3000 that is part of online Epocrates and includes over 100 desktop calculations.

Online Medical Resources: With the exception of UpToDate and Epocrates Online the following programs are part of the Navy Telelibrary: MDConsult, Micromedex, OVID, E-Medicine, and StatRef. We posted all resources on one page with usernames and passwords for ease of access.

Utilization-referral guidelines: Our hospital wanted to make local and national referral criteria available to reduce unnecessary or inappropriate consults (in progress).

Valuable web links: Commonly accessed medical websites were posted in one location such as Medline Plus, PubMed, and the CDC.

Results

Clinician Tools has received approximately 1,000 hits monthly since its inception in January 2005. The statistics may underestimate use as many clinicians have opted to create desktop short cuts to the most commonly used programs such as UpToDate and online Epocrates. The creation of Clinician Tools was accomplished over a 3-month period and the conversion to Microsoft Active Directory took approximately 2 weeks. Both processes were extremely well received by the medical staff. Other than the yearly leasing price of UpToDate and Epocrates Online, no further expenditures were required to create our desktop Intranet and "Clinician Tools."

Discussion

Our physician portal was inexpensive, easy to create and operate, and well accepted. It is unique in that we integrated our Intranet as part of the desktop for ease of use. We had the advantage of having computers already in both our offices and exam rooms and having a large information management department.

The physician web portal offers many features valuable to busy clinicians. It consolidates a variety of medical and administrative information from multiple sources into one convenient location. In many ways it functions as a desktop personal digital assistant. It improves productivity providing rapid access to clinical and administrative answers while the patient is still in the exam room. We believe that the physician web portal has increased patient satisfaction as many questions may be addressed at the time of the exam.

Reducing the burden of multiple log ons and providing popular medical resources such as UpToDate and Epocrates Online are keys to successful implementation and acceptance by a medical staff. Busy clinicians want timely answers to clinical questions and want to minimize trips to the library or trips to find patient forms and handouts.

Currently, most physician portals are stand alone programs created by a local information technology staff. Many electronic medical record (EMR) vendors are now working to integrate educational content including online medical resources into their products.(12) In spite of concerns about computers interfering with patient care, data suggests that exam room computers may have positive effects on physician-patient interactions.(13) It is not known if a desktop clinician portal will entice clinicians to change their workflow habits and begin using a computer in the exam room.

Conclusions

Many hospital systems offer educational clinician web portals as part of their healthcare information technology strategy. Based on our experience, if physician portals are done well they will be rapidly accepted as part of patient care in the hospital or clinic and serve as a marketing tool for attracting physicians. Although there is little data on the return on investment, we believe that improved productivity could be achieved through physician web portals. The educational goal of a physician portal with online medical resources is to provide high quality answers with minimal effort at the point of care.

It is likely, in the not too distant future, that many of the portal functions discussed in this paper will be integrated into the electronic health record.

References

1. Covell DG, Uman GC, Manning PR. Information needs in office practice: are they being met? *Ann Intern Med.* 1985;103:596-9
2. Schilling LM, Steiner JF, Lundahl K. Residents' patient-specific clinical questions: opportunities for evidence based learning. *Acad Med.* 2005;80:51-6
3. Bishop, L. Usability Holds Back MD Handheld Usage. March 15 2005 <http://www.forrester.com/Research/Document/Excerpt/0,7211,36530,00.html>
4. McMaster University Glossary <http://www.mcmaster.ca.cis/ctl/glossary.htm>
5. What doctors want in web portals. *Internet Healthcare Strat.* 2003;5(9):5-7
6. Hochhalter B. A universe at your fingertips: the clinical library and kp healthconnect. *The Permanente Journal.* 2004;8(4).
7. Indiana Hospital Deploys Physician Web Portal 23 February 2005 <http://www.ihealthbeat.org>
8. United States Air Force Knowledge Exchange <https://kx.afms.mil>
9. Kaiser-Permanente Clinical Library <http://cl.kp.org>
10. Solovy A. The Quality Connection. July 2005 <http://www.hhnmag.com>
11. Population Health Navigator http://www-nehc.med.navy.mil/hp/ph_navigator/
12. iConsult: Clinical Decision Support <http://iconsult.elsevier.com>
13. Hsu J, Huang J, Fung V. Health information technology and physician-patient interactions: impact of computers on communication during outpatient visits. *JAMA.* 2005;12: 474-80. □

—Story by CAPT Robert E Hoyt, MC, USNR, a researcher at Naval Aerospace Medical Research Laboratory, Pensacola, FL, and LT Ryan L Meskimen, MSC, USNR, Charlie Company Commander, 3D Medical BN / 3D MLG Unit 38449.

Developing the 21st Century Hospital Corpsman

Naval Medical Education and Training Command (NMETC) published a list of certifying bodies for certifications and qualifications within the Hospital Corps web page on Navy Knowledge Online (NKO).

Just as every aspect of readiness is important for success in defending our nation, so is the need for Navy medical professionals' ability to respond to a variety of situations worldwide.

According to RDML Carol Turner, commanding officer of NMETC, attaining professional certifications and qualifications is a key element to success. "The CNO's top priority is Sea Warrior, a career management system that provides for the professional growth and development of our people," she said. "Achieving certifications and qualifications further elevates the level of professional excellence within Navy medicine and directly supports Sea Warrior."

Medical certifications and qualifications support the Sea Warrior initiative and sustain combat readiness by providing universal baseline competencies, shared within the joint service arena and among our civilian counterparts. Collaboration with joint service initiatives and civilian medical professionals, including non-governmental organizations (NGOs), is greatly enhanced when the common denominator is based upon peer-defined standards endorsed by a professional certifying body.

Sailors who maintain their professional certifications demonstrate a strong desire for continued learning, research, and practice within their specific field. Membership often allows the opportunity to network with other healthcare professionals and provides an opportunity for sailors to mentor others, helping to prepare 21st century leaders and fleet readiness for the future. It also supports the Surgeon General's priority of shaping tomorrow's force by providing the right mix of health professionals.

Active involvement in professional associations will allow hospital corpsmen to develop leadership skills through research and speaking engagements at professional conferences. Professional associations often sponsor periodic publications which allow members an opportunity to publish research or other information related to their professional field.

For more information, log onto NKO at <https://www.nko.navy.mil>, click on the "Force Health Protection" page under "Learning Centers," then navigate your way on the

"Hospital Corps" web page and scroll down to "Certifications and Qualifications." □

—Story by LTJG Janette Arencibia, Head, Facilities, Naval School of Health Sciences, San Diego.

FDA Anthrax Vaccine Ruling

On 16 December 2005, Dr. William Winkenwerder, Assistant Secretary of Defense for Health Affairs released the FDA's ruling on anthrax vaccine. This is the text of that press release.

Today, the Food and Drug Administration (FDA) issued a final order reaffirming previous conclusions that the anthrax vaccine prevents anthrax resulting from any route of exposure, including inhalation anthrax.

In light of the final order, the department will review program options. The military services will continue anthrax vaccinations as they have since April 2005 on a voluntary basis for eligible service members with the option to refuse.

Scientific experts over the years have consistently found this vaccine to be safe and effective. The FDA, the Centers for Disease Control and Prevention (CDC) and the National Academy of Sciences all agree that anthrax vaccine protects against all forms of anthrax and is as safe as other vaccines.

The department's safety record in administering the vaccine has been excellent and open to public scrutiny. Defense experts publish papers in scientific journals and regularly collaborate with the CDC, the FDA and civilian expert groups on vaccine safety projects.

The threat of anthrax as a weapon remains real. It is very important to provide our service members with maximum protection against this threat, particularly when operating in certain areas of the world.

For people at increased risk of exposure, the benefits of the vaccine far outweigh the risks when all factors are considered. Vaccination against anthrax is the best round-the-clock protection available to protect our forces at risk. □

—DOD News Release 15 December 2005.

“Battle Station Sick Bay” Release

Without doubt, the U.S. Navy’s triumph over the Imperial Japanese Navy in June 1942 marked a turning point in the Pacific war. Before then, nothing could stop the Japanese rampage throughout the Pacific. After Midway, even though the pendulum had swung in favor of the United States, final victory was many campaigns and many, many lives away. Throughout those next 3 years, Navy medicine would accompany the carriers, battleships, cruisers, destroyers, submarines, and thousands of other vessels on the long, bloody road to Tokyo. As crewmen on these vessels, doctors, dentists, and hospital corpsmen would man battle stations and sick bays during the heat of battle—and the lulls in between. And they would do what Navy medical personnel had always done—treating disease, repairing torn, burned, and bleeding bodies, and returning men to duty.

The soon to be released 30-minute documentary, “Battle Station Sick Bay,” in the Bureau of



Dr. John Fakan, President of the USS Cod Submarine Memorial describes the sub's rich heritage to Medical Department Historian Jan Herman as *Cod's* Curator, Paul Farace, looks on.



Medical personnel immunize crewmembers in USS Nevada's (BB-36) sick bay, 1944.

Medicine and Surgery’s six-part series, Navy Medicine at War, tells the story of these personnel through their own words. “Battle Station Sick Bay” is the fourth video to be released. “Navy Medicine’s Trial by Fire: December 7, 1941,” “Navy Medicine at Normandy,” and “Guests of the Emperor” are available on DVD or VHS. You may order these releases from: Visual Information Directorate, NMETC, Bethesda, MD, 301-295-5595. Please specify DVD or VHS format.

“Battle Station Sick Bay” will be available in early March. □

The Forward Deployable Dental Dressing

Ease of Use and Reliability Rolled into One

Amer Tiba, Ph.D

David G. Charlton, D.D.S.

CAPT A. Dale Ehrlich, DC, USN

CAPT James C. Ragain Jr, DC, USN

Providing dental care to the warfighter in the war zone (i.e., operational environment) is one of the missions of Navy medicine. Ensuring that troops are returned to their units as expeditiously as possible is crucial to the war effort. Although some may believe dental problems to be only a small part of overall operational medical service care, in actuality up to 22 percent of all emergency (i.e., unscheduled) health visits during operations, deployments, and field training exercises are due to dental casualties. Most of these dental problems cause pain that leads the troops to seek emergency care from dentists and technicians in the field. Dental emergencies can run the gamut from gum infections and lost or fractured fillings to oral-facial trauma. Nearly half the emergency dental visits, however, are related to fractured teeth, lost dental restorations (fillings), and loose crowns and bridges that can easily be treated by a dental officer or technician. Reliable treatment of these conditions assumes that a dependable temporary dental filling material or a dental dressing is available that can be used to cover sensitive exposed tooth surfaces.

Many of the currently marketed dental dressing materials have limitations that make it difficult to use them under operational conditions. Often they require refrigeration to prolong their shelf life. Some products provide too little time for mixing and placing, or they set much too quickly, especially when the climate is

too warm or humid. Also, most require hand mixing of a powder and a liquid, which is often very challenging under windy conditions. This is particularly true if a nondental technician such as an independent duty corpsman (IDC) places them. To make materials easier and faster to mix, some commercial products are packaged in capsules that are mechanically mixed prior to use. This eliminates the need for the user to accurately dispense the powder and liquid and mix them by hand, two aspects of the process that are quite challenging. It also ensures the material will be quickly mixed. Although this facilitates their use, encapsulated dressing materials require the use of an electrically-powered mixing machine. Under often austere deployment conditions, dependable continuous electrical power may not be available. Finally, many of the commercial products are simply not durable enough and need to be replaced often during the deployment.

In order to treat these dental casualties, deployed dental officers in forward areas must have a durable dressing material that is easy to mix and place. It should also be provided in a package that is small for easy carrying and is simple enough to be used by non-dental technicians. Scientists at the Naval Institute for Dental and Biomedical Research (NIDBR) at Great Lakes, IL, have been working to develop such a product so that warfighters can be reliably treated and expeditiously returned to their units.

The Process of Development

In order to develop a material that would meet the needs of dental healthcare providers in the field, NIDBR scientists first needed to identify the qualities that users would want in a dressing material.

To accomplish that, informal surveys were taken of dental officers and technicians asking them to identify properties they would like to have in a field dental dressing. Useful input was obtained, especially from IDCs who are non-dental personnel. Basic characteristics such as ease of mixing, an adequate amount of time for placement, dependability, and understandable instructions were identified. These properties and others guided the development of the dressing material. As important as it was to identify the proper characteristics the dressing should have, it was equally important to make sure that certain undesirable properties were not present, such as a short shelf life and difficulty in mixing. To accomplish this, NIDBR scientists examined all currently available dressing products and identified their deficiencies. Knowing the basic components of these products made it easier to determine components that could be used. A final consideration during development was to clarify exactly what the intended purpose of the new product was, because that would determine how it would be used. As noted earlier, nearly half of dental emergencies in the field are due to fractured teeth, lost fillings, and loose crowns and bridges. Invariably, these problems result in pain and loss of chewing ability, so NIDBR scientists decided that the most important function for the new material should be to cover exposed sensitive tooth structure so that pain is reduced or, hopefully, eliminated. Based on the clinical experiences of the scientists (most of whom are dentists), it was decided that a true "dressing" material should adequately treat pain and restore at least some degree of chewing function. Being able to place the material in a thin layer also had the advantage of enhancing its user friendliness.

Choosing the Right Material

A number of different materials are available that can be used as a dressing in dentistry. Unfortunately, each has significant shortcomings that limit its use. For example, zinc oxide powder can be mixed with eugenol (oil of cloves) liquid, but the resultant material is not very hard and does not chemically bond to teeth. Another material is available that combines a glass



The Forward Deployable Dental Dressing storage/mixing/dispensing system.

powder and a special acidic liquid. Here, the resulting hardened material is strong and adhesive; however, commercially available products of this type are either packaged inconveniently or are modified with a liquid plastic that requires the use of a special curing light to make them harden. It became evident during the early planning stages that the type of material with the greatest number of desired properties was the glass-ionomer cement that was specially formulated to improve its mixing and hardening characteristics and could also be packaged in a way to make it easy for a non-dentist to use.

Glass ionomer dental filling materials possess two properties that are not found together in any other dental material: fluoride release and the ability to actually bond to tooth structure. It is well known that fluoride reduces the chance for tooth decay to occur and it was thought that this would be beneficial for deployed troops whose oral hygiene might not be as good as it should be. The ability to bond to the tooth meant that the tooth would not have to be drilled in order to mechanically hold the dressing material in place. This last characteristic would be of great importance in far forward locations where standard dental drills may be unavailable or difficult to use. Glass ionomers also exhibit other beneficial properties that made them a good choice such as rapid hardening after placement, good strength, and good sealing ability.

Mix and Test, Mix and Test, Mix...

After obtaining the basic glass-ionomer components, the slow, tedious, exacting process of actual formulation could begin. Scientists at NIDBR mixed dozens and dozens of different combinations using various concentrations of the compo-



Material being mixed in its syringe mixing system.



The Forward Deployable Dental Dressing and its packaging tube.

nents, and then tested the mixed materials' strength, adhesiveness, and resistance to fracture to determine which formulation achieved all the requirements established early in the product's planning stages. The scientists also measured the mixing time of each test mix to see if the user would have enough time to mix the material and place it on the tooth before it began to harden.

To run this test, a number of technicians and dentists were asked to work with the various mixes and provide their opinions. To a great extent, the work of formulation came down to trying to develop a product that had the proper strength, durability, and reliability while at the same time had the correct handling characteristics for the users. The process was a balancing act between these often opposing goals. Often, a formulation was developed that resulted in a strong, adhesive dressing, but it hardened so fast that the technician did not have time to place it in the mouth.

After months of adjusting the formula, a product was finally developed that was strong, bonded well to teeth, and gave the technician enough time to use it without undue rushing. Two additional adjustments were then made to make the material visible on a dental x-ray and change color when it was mixed. The color change was added so that the technician could visually determine if the material had been mixed thoroughly before placing it. It also makes it easy to see during placement. Although the color chosen was a shade of orange, the material was formulated to change to a more tooth-colored white shortly after being placed on the tooth.

All-in-one Package

The unique packaging of the dressing was as important in achieving user-friendliness as was the material itself. None of the currently available dental dressings are packaged in a way that makes them convenient to use in the field. Therefore, a major goal of this project was to design and produce a package that would

simplify use. To achieve this, the package would need to be used to store the product's components, thoroughly mix them, and then place the mixed dressing directly on the tooth. The fact that this had not been done before with a commercial product was a testament to its difficulty.

In order to produce the package as expeditiously as possible, NIDBR developed a working relationship with an established dental product manufacturing company. This collaboration made it possible to more quickly design and produce a prototype package. Working with the company also made it possible to transition the final product to a nationwide market. The packaging that was developed uses two plastic syringes that are joined together. At the time of use, the liquid in one syringe is expressed into the other syringe (which contains the powder). To mix the resulting dressing, the user repeatedly transfers it between the syringes. As it is mixed, it undergoes a color change to let the user know it is being thoroughly mixed. An integral part of the syringe design is an air-channel that is opened after mixing to allow air in the mixture to be removed so that a dense, nonporous dressing is achieved. After mixing, the syringes are separated, a plastic tip is then placed on the end of the syringe and the user applies the material to the sensitive tooth surface. After approximately 8-10 minutes, the patient can be dismissed and return to his/her unit.

Mission Accomplished

Experience has clearly shown that painful dental problems requiring treatment occur in operational settings. The development of this new dressing is an example of the type of productive collaboration between military scientists and industry that can produce a product that addresses a military need while at the same time benefits the civilian dental market. □

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FDDD material becomes yellow to confirm thoroughness of mixing.

The Goiter Incident

HMC Daniel B. Buckley, USN (Ret.)

Seabee Team 0303 arrived in Amphur Terng in the fall of 1964. It was November and the monsoon rainy season had just ended. Everything was lush and green. The village of Terng was located in a remote valley surrounded by mountain ranges on both sides. Our first contact with the village population was a little strained because the Seabee teams were the first contact these natives had had with anybody outside their village. Within a short time, a friendly relationship developed. The Thai people are a proud people. They have been occupied over the centuries but their spirit has never been conquered.

Living conditions were primitive by our modern standards. Basic conveniences which we are accustomed to such as refrigeration, electricity, shower, and toilet facilities were almost non-existent. Fresh food had to be consumed on the day it was bought as there was no refrigeration. A shower was an

outdoor stall containing a large urn of cold water. Toilet facilities consisted of a concrete mould with a hole in it called a privy. There were no telephones. The only contact the team had with the outside world was with a shortwave radio which the team used to contact Seabee headquarters in Bangkok every evening. With the aid of a portable generator and some basic plumbing, the team was able to improve the living standards to an acceptable level.

Medical conditions were no better than the living conditions. This was due to the remoteness of the area, inadequate sanitary conditions, and overcrowded living spaces that existed in the village. Diseases such as malaria, tuberculosis, dysentery, glaucoma, leprosy, goiter, and other parasitic conditions were common in the area, affecting the hill tribes—the Meo and Yao in particular. Overall health conditions of the village population, with the exception of the goiter, were fairly stable.

The local provincial department of health employed health sanitarians to deliver basic healthcare in the village. Healthcare for the local hill tribes was non-existent.

Dysentery took its toll on the young. Many hill tribe children never survived childhood. Glaucoma, which can lead to blindness, was also common. The one positive note was the dramatic response to the use of antibiotics. This was due to their isolation; they had never been exposed to antibiotics and had never built up a resistance to the drugs. As a result, many of the medical conditions responded well to treatment. Of particular concern to the villagers were snakebites.

The Seabee team constructed 17 miles of all-weather road. Clearing the brush for road construction presented a problem due to the cobra population which had begun to breed after the end of the rainy season. Fortunately, my sick bay was well stocked with anti-cobra venom serum.

The sick bay was also loaded with eggs, chickens, and food products as the hill tribes had no currency and this was their way of paying for medical care.

The most common condition among the central population was the goiter. It was endemic to the area, affecting adults and children alike. A goiter is defined as a symmetrical enlargement of the thyroid gland. This gland is located in the front of the neck. While not considered to be a serious medical condition, it is unsightly to observe. The primary cause of goiters is the lack of iodine and iodized salt in the diet. Because of its geographical isolation, the village had no access to either seafood or iodized salt.

The Seabee team rented a house in the village to use as headquarters. They hired a Thai couple to cook and clean the house. There was an open-air restaurant next to the house. One of the team's first projects was to construct a water treatment unit in the backyard. A strange event began to unfold. The couple who worked in our household and the people who worked in the restaurant next door began to notice a dramatic decrease in the size of their goiters. What was noteworthy was the fact that these same villagers were also using our treated water. There was something in that treated water that was causing the goiters to shrink. The compound used to treat the water was called "Diatomaceous Earth." An analysis of this compound revealed that it was composed of crushed fossils of fresh-water organisms and marine life. These were microscopic skeletal remains of unicellular, algae-like

plants called diatoms. Fish and marine fossils are known to be a rich source of iodine. The team came to the conclusion that there was some form of iodine in the treated water. In order to test this theory, it was decided to conduct an experiment. The team carried a limited supply of iodine tablets. (Iodine tablets are used during field exercises to purify canteen water.) The proposed theory was as follows: If the treated water did contain iodine, then by substituting iodine tablets, the same results could be duplicated.

The group chosen for the experiment were local school children. This group was chosen because the variables of the study could be controlled. Each pupil was given a glass of water in which two iodine tablets had been dissolved. This was done on a daily basis. Within a short period of time, all the goiters in the school population had responded to treatment. The Seabee Team had confirmed its original conclusion.

The team was now faced with a new problem, that of supply and demand. Word had spread throughout the village and local Meo and Yao hill tribes that the Seabees had found a cure for the goiter. The number of local villagers and hill tribes showing up at my sick bay door at the airstrip increased many fold. By appealing to organizations such as the local provincial department of health, Seabee Headquarters in Bangkok and other organizations, the team was able to procure and maintain an adequate supply of iodine tablets to treat everyone that showed up at sick call. The team was able to encourage local

health sanitarians to promote the use of iodized salt in the local diet, preventing any goiter outbreaks in the future.

Although construction and medical aid were primary functions of the Seabee Team, we were also involved in other projects. Rural development was such a project. Working in cooperation with such non-governmental organizations, the team was involved with a program called the "Accelerated Rural Development Program." Under this program, the team would go from house to house placing cement privy moulds in backyards. Villagers were encouraged to remove the animals and livestock from under the house and to clean up their yards. Wells were repaired, making the water safe to drink. Drainage and irrigation ditches were re-routed away from the houses. By implementing these and other measures, the team was able to improve the overall living and sanitary conditions of the local population.

Seabee Team 0303 completed the following projects: An airstrip was constructed, allowing Air America to fly in needed supplies to the hill tribes. Seventeen miles of all-weather road was constructed. Local villagers were trained in construction skills during the building of the airstrip and road. With the assistance and cooperation of non-governmental organizations, medical and living conditions of the local population were greatly improved. □

HMC Buckley is retired and lives in Middletown, RI.

Case Report

Brugada Syndrome Presenting Aboard Ship

CDR E.B. Herbert, MC, USN
LT S.M. McHugh, MC, USN

Brugada syndrome involves the occurrence of sudden cardiac death in a patient with a structurally normal heart, and the electrocardiographic findings of right bundle branch block pattern and ST-segment elevation in the right precordial leads.

Case

On 8 October 2004, USS *Belleau Wood* (LHA-3) was returning from an Arabian Gulf deployment and was steaming for Pearl Harbor. It was late afternoon, sunny and warm, and the captain had just rewarded the crew for a successful deployment with a “steel beach picnic” on the flight deck. Suddenly the calm of the day was broken as “Man down in S-6 division office!” was called away over the 1MC. The Emergency Medical Response Team, comprised of pre-designated members of the ship’s medical department, grabbed their gear and moved to the location of the man down.

As the team arrived on scene, they discovered that the man down was a 33-year-old Filipino male who was lying on the deck ashen and in full cardiac arrest with his LPO performing single rescuer CPR. His shipmates described how a group of them had been sitting in the office talking and that the victim had seemed perfectly well just prior to his collapse. He had stood a midwatch the previous night, had stayed awake to enjoy the steel beach picnic, and then returned to the division office later in the afternoon. He had been sitting in a chair when he suddenly stopped talking in mid-sentence and fell forward face down on the deck. When his shipmates rolled him over they saw that he was unresponsive and apneic and his LPO immediately began CPR.

The Emergency Medical Response team now on scene quickly verified cardiac arrest and took over CPR. The ship’s Biomedical Repair Technician (BMET) connected a Zoll M Series Automatic External

Defibrillator (AED) to the patient and chest compressions were halted while the AED analyzed. The display clearly showed coarse ventricular fibrillation and the BMET administered a single countershock. The immediate post-defibrillation rhythm was asystole, and so CPR was resumed while the nurse anesthetist endotracheally intubated the patient. During the intubation procedure, a spontaneous palpable pulse was first noted, and the monitor now showed sinus tachycardia. An IV was placed and the sailor was moved to the hangar bay. Still intubated, he began moving spontaneously, fighting against the endotracheal tube, and vomited twice. At this point the rescuers extubated the sailor. Upon arrival in the Main Battle Dressing Station, the sailor was now awake and conversant although somewhat confused. He moved all extremities purposefully and followed commands. Blood pressure was 120/60 with a pulse in the 120s and O2 sats 95-100 percent on supplemental oxygen. The initial 12 lead ECG upon admission to the ship’s ICU showed normal sinus rhythm, but with an unusual appearance in precordial leads V1 and V2 revealing J point elevation followed by downsloping ST segments and a right bundle branch block appearance consistent with Brugada syndrome.

The sailor remained completely stable during the remainder of his stay in the ship’s ICU. Blood chemistries and serial creatine phosphokinase (CPK) determinations were performed on a Piccolo analyzer. Consistent with cardiac arrest and chest compressions, total CPK peaked at 10 hours and normalized by 20 hours post-resuscitation. Serial blood specimens were saved so that cardiac isoenzyme values could be determined later at Tripler Army Medical Center (TAMC). Serial ECGs showed no progressive changes consistent with infarction. In light of the possibility of coronary artery disease as a cause of the event, anticoagulation was initiated with subcutaneous enoxaparin, and daily

aspirin was administered. The sailor's cognitive status rapidly returned to normal and a formal mental status evaluation performed by the clinical psychologist from Expeditionary Strike Group 3 on post-resuscitation day one showed no deficits with regard to object recall, orientation, attention, concentration, or language. An additional historical piece of data obtained from the patient was the fact that his father had died suddenly and unexpectedly in the Philippines at age 49. By 11 October, the ship was within helicopter range of Oahu, and the sailor was medevaced accompanied by the family physician.

At TAMC, cardiac isoenzyme determinations performed on the blood specimens obtained aboard ship during the first 24 hours post-arrest showed no evidence of myocardial infarction. An echocardiogram showed normal left ventricular function, and a coronary angiogram revealed normal coronary anatomy. The patient was transferred to Queens Medical Center in Honolulu where he had a Medtronic single chamber implantable cardiofibrillator (ICD) inserted. In the catheterization lab under general anesthesia, ventricular fibrillation was intentionally induced and successfully terminated by the ICD at 15 joules.

The sailor's journey back to San Diego was uneventful and he followed up in the Cardiology Clinic where he was closely monitoring in the Pacemaker ICD Clinic. His presentation was felt to be consistent with the Brugada Syndrome. A recommendation was made to the patient that his family all have screening ECGs. A medical board was dictated and he was referred to the Physical Evaluation Board.

Discussion

In 1992, brothers Pedro and Josef Brugada described a new syndrome associated with sudden death in individuals with no structural heart disease and no evidence of atherosclerotic coronary disease.⁽¹⁾ These patients had unique electrocardiographic abnormalities consisting of a right bundle branch morphology and ST segment elevation in the right precordial leads V1-V3. This syndrome is now known as the "Brugada syndrome." The right bundle branch block is often incomplete and the ST elevation can be minimal. While 5 percent of sudden cardiac death victims have no demonstrable heart disease and are traditionally classified as having "idiopathic ventricular fibrillation," it is now estimated that 40-60 percent of these patients may have the Brugada syndrome as the cause of their arrhythmic

death.⁽²⁾ A subset of these patients have self-termination of their ventricular arrhythmia and will present as a syncopal episode.

While Brugada syndrome has been found in many different ethnic groups, it appears to be particularly prevalent in those of southeast Asian ethnicity.⁽³⁾ Sudden death of young adults during sleep, known in the Phillipines as bangungut ("to rise and moan in sleep") was first described in the Philippine medical literature in 1917. A recent case series of 27 Thai men referred for resuscitated cases of lai tai ("death during sleep") revealed that 16 of them had ECG patterns typical of the Brugada syndrome.⁽⁴⁾ In Japan the syndrome is similarly described as pokkuri ("unexpected death at night"). In a review of all 163 cases, which met the diagnostic criteria for Brugada syndrome, 58 percent were of Asian ethnicity.⁽²⁾

The symptoms of Brugada syndrome typically present in the fourth or fifth decades of life, and in about half the cases there is a familial association.^(1,2) In the case of our sailor, his father had died suddenly at age 49. Studies by Chen et. al.,⁽⁵⁾ were the first to link the syndrome to mutations of SCN5A, the gene which encodes the cardiac sodium channel, a protein which is crucial to the propagation of the cardiac impulse through the myocardium. Approximately 20 percent of patients with Brugada syndrome are found to have a mutation of this gene⁽⁶⁾, and several dozen various mutations of SCN5A have recently been discovered. Depending on the specific mutation, the effect of the abnormal sodium channel is either reduction of the sodium channel current or accelerated inactivation of the channel.⁽⁷⁾ The end result is varying refractoriness between epicardium and endocardium during repolarization, which makes the myocardium vulnerable to a premature impulse inducing a reentrant arrhythmia.⁽⁸⁾

The electrocardiographic abnormalities found in Brugada Syndrome are seen in leads V1 to V3. They all show 1) a right bundle branch pattern and 2) ST segment elevation. The ST segment elevation can be one of two types:⁽⁹⁾ 1) J point elevation with a coved, convex-upward ST segment gradually descending into a negative T wave or 2) J point elevation giving rise to a gradually descending ST segment followed by a positive T wave, giving a saddleback concave appearance. The administration of a sodium channel blocking drug such as flecainide or procainamide will often bring out the ECG abnormality as can an elevated body temperature.⁽¹⁰⁾ It stands to reason that, in the case of our

sailor, participation in the steel beach picnic on a hot sunny afternoon could conceivably have been associated with his arrhythmia.

The prognosis of the Brugada Syndrome is poor and the risk of subsequent malignant ventricular arrhythmias is significant. Prognosis depends on how the patient presented (resuscitated cardiac arrest, syncope, or characteristic Brugada ECG in the absence of symptoms). The prognosis also depends on whether sustained ventricular arrhythmias can be induced in the electrophysiology lab. In patients who present with resuscitated cardiac arrest, the risk of a new arrhythmic event is 62 percent over 4 years.(11) In those who present with syncope, the risk of a new arrhythmic event is 19 percent over 2 years of follow up.(11) Even in those who are asymptomatic and were merely found to have the characteristic electrocardiographic findings on a routine ECG, the risk of an arrhythmic event is 14 percent over a 2-year period.(11) In each of these three groups, the risk is higher in those who have an inducible sustained ventricular arrhythmia during electrophysiologic testing. At this point there are no guidelines for routine screening of individuals for Brugada syndrome.

Implantation of an implantable cardiofibrillator is the only intervention shown to improve survival as there is no proven survival benefit from antiarrhythmic drug therapy.

It is clear that symptomatic patients with the Brugada syndrome who presented with cardiac arrest or recurrent syncope should receive an ICD.(11) The controversy surrounds those who are asymptomatic and in whom the diagnosis was made by routine ECG. The present approach involves electrophysiologic testing on these individuals. If they have an inducible sustained arrhythmia then they should receive an ICD. However, if a sustained arrhythmia cannot be induced then it is hard to justify placement of an ICD.(11)

The case highlights several Navy-specific issues concerning Brugada syndrome. The periodic 5-year physical exam previously required an ECG "beginning with the exam most proximate to age 40." With the recent replacement of the periodic physical exam by the annual Preventive Health Assessment, there is not an explicit requirement for ECG testing. Certainly, routine ECGs at an earlier age could be considered, especially for those of southeast Asian ethnicity. Family members of patients with Brugada syndrome should be screened electrocardiographically, and in the future such screen-

ing may one day involve genetic testing. Secondly, this case highlights the absolute necessity of maintaining all emergency equipment in a fully operable condition and conducting training in emergency medical responses for ship's company, ship's medical department, and the Fleet Surgical Team. The third issue is the case of Veterans Affairs disability benefits for the sailor. The findings of the PEB Board was that the sailor is to receive no disability benefits because the condition existed prior to enlistment. This, however, is problematic in the case of Brugada Syndrome which can be completely asymptomatic until it presents with a lethal cardiac arrhythmia.

References:

1. Brugada P, Brugada J. Right bundle branch block, persistent st segment elevation and sudden cardiac death: a distinct clinical and electrocardiographic syndrome: a multi-center report. *J Am Coll Cardiol.* 1992;20:1391-1396.
2. Alings M, Wilde A. 'Brugada' syndrome – clinical data and suggested pathophysiological mechanism. *Circulation.* 1999;99:666-673.
3. Brugada P, Brugada R, Brugada J. The Brugada syndrome. *Curr Cardiol Reports.* 2000;2:507-514.
4. Nademanee K, et al. Arrhythmogenic marker for the sudden unexplained death syndrome in thai men. *Circulation.* 1997;96:2595-2600.
5. Chen Q, Kirsch GE, Zhang D et al. Genetic basis and molecular mechanisms for idiopathic ventricular fibrillation. *Nature.* 1998;392:293-296.
6. Smits JP, Eckardt L, Probst V et al. Genotype-Phenotype relationship in brugada syndrome: electrocardiographic features differentiate xcn5a-related patients from non-scn5a-related patients. *J Am Coll Cardiol.* 2002;40:350-356.
7. Naccarelli GV, Antzelevitch C. The Brugada syndrome: clinical, genetic, cellular, and molecular abnormalities. *Am J Med.* 2001;110:573-581.
8. Antzelevitch C. et.al. Brugada Syndrome: a decade of progress. *Circulation Research.* 2002;91:1114-1118.
9. Mattu A. et.al. The Brugada Syndrome. *Am J Emerg Med.* 2003;21:146-151.
10. Dumaine R, Towbin JA, Brugada P, et al. Ionic mechanisms responsible for the electrocardiographic phenotype of the brugada syndrome are temperature dependent. *Circ Res.* 1999;85:803-809.
11. Brugada J, Brugada P et al. Long-term follow-up of individuals with the electrocardiographic pattern of right bundle branch block and ST-segment elevation in precordial leads V1 to V3. *Circulation.* 2002;105:73-78. □

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“I Didn’t Want to Commit Suicide”

On any given day in Vietnam, military personnel exhibited many acts of bravery and self-sacrifice. For inexplicable reasons, a young warrior dashed across fire-swept terrain to silence an enemy machine gun that was killing his buddies. A young sergeant, finding his superior wounded and dying, assumed command of the rifle company and rallied his men to lead a successful counterattack against enemy positions. A grievously wounded second lieutenant directed the landing of two transport helicopters for the evacuation of the dead and wounded, then assisted in the “mopping up” and final seizure of the battalion’s objective. Without regard for his own safety, a Navy hospital corpsman ran across an active battlefield to aid a downed Marine, throwing himself upon his patient to protect him from further injury.

These heroic deeds in the face of death were common in Vietnam. Hospital corpsmen, as in other wars, always seemed to be in the thick of battle—and they paid the price. During the course of the almost 10-year conflict, 681 hospital corpsmen were killed in action, the highest number lost since World War II. Thirty received the Navy Cross, 127 the Silver Star, and 290 the Bronze Star. Four hospital corpsmen were awarded the Medal of Honor, two posthumously.

The Medal of Honor has never been awarded lightly. The timely testimony of eyewitnesses plus the willingness of a superior officer to do the paperwork and follow it through a lengthy and complicated awards process has often been as crucial as the act itself. In addition, the granting of that rare and most coveted of medals is never a foregone conclusion until the award is presented by the president to the lucky survivor or, posthumously, to the family of an absent hero. As is often the case, the citation accompanying the award is often brief and scant in detail. The real story is usually far more dramatic. HM3 Donald Ballard was assigned to Company M, 3rd Battalion, 4th Marines of the 3rd Marine Division. He had been in Vietnam about 5 months, having spent all that time patrolling with “Mike” Company in such places as Khe Sanh, Dong Ha, Cam Lo, and “the Rockpile,” adjacent to the DMZ. Ballard had also seen his share of jungle warfare and treated many casualties. “I don’t think that day meant much more to me than any other day. Looking back, it was similar to other actions, but on that day I did some other things. We were constantly in firefights and lately were taking more casualties because of where we were and what terrain we were trying to hold.”

May 16th, 1968, was the day I earned the medal. Things had kind of settled down and we decided to move off the hill we were on. I had selected a staging area and had five or six patients lying there. I had asked some of the Marines to help me get some ponchos so we could take them down off the hill to where we could medevac them out. The helicopters couldn't land on the side of the mountain, and that's why we had to take them down to a flat, grassy area.

Because we were the only thing on the side of the mountain that was moving, we brought attention to ourselves. We were loading the patients onto the ponchos and getting ready to drag them down the hill when a North Vietnamese soldier threw in a hand grenade.

What are you going to do with it? You don't have too many choices. It was inappropriate but acceptable to throw a dead body on it—something to absorb the blast. But I didn't have any volunteers and nobody wanted to play dead. Another choice was to get rid of it. The third choice was to try to hide yourself or run from it—and that was not going to work.

My patients—who were lying there—couldn't do any of the above. They were wounded. I had been treating them and they were out of the war and ready to go home. Therefore, I was the only one who could do anything to deal with this new crisis.

It was more of a reaction than a conscious decision. I didn't want to commit suicide. I had a wife and two kids. I had a life and I loved myself as much as I

did the Marines. But again, I didn't see a whole lot of options at the time. I had to do something because the patients couldn't. I thought I could absorb the blast and save their lives. I believed it was going to kill us all if something wasn't done.

I had seen the grenade come in and roll down the hill toward us. It looked like a C-ration can with a handle in it. It wasn't smoking or anything—it just lay there. I had a flak jacket on that was supposedly bulletproof. I figured that would probably help a little bit. I wore that jacket all the time except when I was in the shower. I even slept in it. I guess I was thinking that my body would take most of the blast and save the others.

I lunged forward and pulled the grenade underneath my chest and waited. It seemed like an eternity. When you've got time to think about what you're doing, you relax. And then a second instinct kicked in and that was to throw it away. I was lying beside one of my patients, and as I rolled up off the grenade, I rolled up onto him and in one motion I slung it down the hill as I rolled. I wanted to get it as far away as I could. Of course, my second worry after I threw it was, "Damn! I hope I didn't throw it on my own guys!"

The citation says that when the grenade failed to go off, I quickly continued my efforts taking care of the Marines. It doesn't say anything about me getting rid of it. It's not the kind of thing you leave lying around. And I can tell you for a fact that a grenade went off in the area where I threw it. I can't tell you if that was the same one or not but the Marines who were with me told me it was.

I was glad that everybody survived it and doubly glad that I threw it in a place where there weren't any of our Marines. I didn't even think that anybody saw what really happened. It didn't appear to me worthy of a general flying in and saying, "You're a hero." When I was actually being awarded the medal, they didn't tell me why I was getting it. I was thinking there were other things I had done that no one knew about.

There were more Marines there with me who deserved the Medal of Honor more than I did. But I was the lucky one in several ways. I thank God every day. □



Hospital corpsman cares for one of his Marines on a patrol in South Vietnam, August 1968.

In Memoriam

The Hospital Corps was saddened to lose a distinguished alumnus, a dedicated spokesman, and one of its finest role models. More than that, with the passing of Bob Bush, the Hospital Corps was saddened to lose a cherished friend.

Former Hospital Apprentice First Class Robert Eugene Bush died on 7 November 2005 in Washington State from complications of cancer. He was 79.

Although he served as a hospital corpsman for only a year and a half during the late stages of World War II, Bush left his legacy when he earned the Medal of Honor for his actions on Okinawa in 1945.

In virtually everything he did, Bob Bush was remarkable. Perhaps the most remarkable thing about him, though, was his ability to bring out the best in those he met. As you chatted with him, his smiles and jokes, and the warmth of his company could almost make you forget the momentousness of his story, a story that was even more dramatic than the version written in his medal citation.

A 17-year-old boy from Washington State drops out of high school to enlist in the Naval Reserve for war service in January 1944. He goes through Boot Camp at Farragut, ID, distinguishing himself as his company's honor man and guidon bearer. He continues his training in Hospital Corps School at Farragut and the Naval Hospital in Seattle before going on to Field Medical School, Camp Pendleton, CA.

Now a hospital corpsman, Bush is assigned to Company G, 2d Battalion, 5th Marines, 1st Marine Division. This unit had seen combat early in the war at Guadalcanal, so Bush and his new Marines took their training seriously. Good thing, too. Within a few short months the young man, now a hospital apprentice first class (equivalent to today's hospitalman or E-3), would find himself on a hostile beach and about to face the enemy.

The first of April 1945—April Fool's Day and Easter Sunday. HA1c Bush and thousands of others in



BUMED Archives

President Truman presenting the MOH to Bush on Nimitz Day 1945.

the 1st Marine Division land on Okinawa. The initial landing is unopposed but the Japanese soon begin their attacks from caves and fighting holes, inflicting casualties on the Marines. Bush, now just 18, sees Americans bleed and die for the first time. He would remember his first casualty, a Browning Automatic Rifle man named Corporal Petty who died of a gunshot wound.

The young Bush hones his medical skills as he treats the continuous flow of wounded Marines. Sadly, he also must treat Okinawan civilians who are wounded accidentally in the combat that engulfs the island.

A month goes by. G Co., 2/5 Marines mounts numerous patrols to scout for the enemy in caves and hidden bunkers. On the morning of 2 May, the company receives orders to secure a hill by 0830. Bush's platoon commander leads a patrol toward the objective. As the lieutenant moves forward, Japanese soldiers launch their ambush and drop the Marine officer with fragments of a mortar shell.

It is the classic story. A Marine wounded in an exposed position. Somebody must save him.

“Corpsman up!”

Bush's platoon sergeant asks if he thinks he can get the lieutenant. Bush responds, running through a rice paddy to reach the fallen officer and then moving him to the safety of a shell hole. He treats the wound to the lieutenant's shoulder, retrieves a dressing from his

gas mask pouch-turned medical bag and applies it. He reconstitutes a unit of serum albumin, a blood volume expander, and starts an IV. It works.

The lieutenant, who had been in shock from his wound, now gets up and runs back to the platoon line, the IV bottle dragging behind him on the ground.

Unfortunately, Bush's movement toward the lieutenant has alerted the Japanese. They attack with hand grenades. Bush is hit by one and suffers a sucking chest wound. First with his .45 pistol and then with the M1 carbine the lieutenant has left behind, Bush fires at the enemy as their heads rise above the berm. It is likely he hits several of them. The Japanese respond with a second grenade with more telling effect, destroying Bush's right eye. As he moves from this untenable position, the concussion of a third grenade slaps his back side.

Bush is exposed, alone, suffering three wounds, and can barely see. And the enemy is trying to kill him. Here is a situation when the human mind is focused upon flight and self-preservation. Bob Bush instead decides to attack.

"The fact that I still could maneuver after those three hits, to this day, never ceases to amaze me," Bush would later say, "because I was hit pretty hard but was able to continue operating."

And operate he did. Recovering an M1 rifle from a dead Marine, Bush moves to his left, around the base of the hill, flanks the Japanese, and comes up behind them. Unable to sight the weapon, he fires from the hip into a stunned enemy, felling as many as half a dozen. In one gutsy move, Bob Bush saves his platoon.

Weak from his wounds, Bush staggers back to his Marines and reaches them just before he is about to pass out from loss of blood. Things begin to get foggy but, in his evacuation through the chain of medical care, he recalls a priest administering last rites. But this tough youngster wouldn't need them just yet.

Bush moves to the hospital ship USS *Relief* and recuperates at several military hospitals before he is honorably discharged from Naval Hospital Oakland. His war now over, he picks up with his previous life where he'd left it, and returns to high school.

He renews old acquaintances and readjusts to life as a student, trying not to dwell on the events of his brief but eventful military career. Still, the experiences are unforgettable.

Bush once said about the incident with his lieutenant, "I didn't think about it or I probably would not have done it, but it was the most natural thing to do when they are attacking you—for you to attack them."

Apparently, it hadn't been as natural as he thought. This is confirmed when a visitor appears on his doorstep to tell him that the president is going to award him the nation's highest honor for heroism.

Bush begins to make plans to go from Washington State to Washington, DC. When he learns that the government will pay to send a spouse with him, Bush proposes to his sweetheart, Wanda, and the two make the cross country trip as husband and wife. Their marriage will last until Wanda passes away over half a century later.

In later years, Bob liked to tell one particular story about the Medal of Honor awards ceremony. There



The monument to him in South Bend, Washington

Photo courtesy of Bush family

were a number of recipients present that day, and President Truman—aware of his authority as Commander-in-Chief to promote service personnel on the spot—planned to do that for each of these heroes. “Major, you are now a lieutenant colonel,” or “Corporal, you are now a sergeant,” the President would say. An Army captain in World War I, Truman knew his ranks...until he came to this sailor.

Seeing only the 1-inch red cross on Bush’s left sleeve, the insignia of a hospital apprentice first class, Truman broke his rhythm by asking Bush, “What the hell are you?” Bush replied by explaining that he’d been medically discharged and was no longer in the Navy.

“Well, you don’t get nothin’,” the President replied before moving to the next man.

For the rest of his life, Bob Bush was a “Medal of Honor recipient.” Through his college studies, as he raised his family, as he built a successful lumber business, as he earned his civilian pilot’s credentials (with which he flew famed aviator and fellow Medal of Honor holder “Pappy” Boyington on his last airplane flight), Bob had the aura of “hero” attached to him. It would place many demands on him, but Bob saw the good his example could do and he wore the blue neck ribbon any time he could to help others.

His status would lead him to attend countless events as the guest of honor—parades, ceremonies, Hospital Corps balls, where he’d tell you his Truman story and many others. He would be honored by having his name assigned to two medical facilities, the clinic at Marine Corps Base Camp Courtney on Okinawa and the Naval

Hospital at Twentynine Palms, CA. His community would dedicate a statue of him as a monument in South Bend, WA. He would take the helm of the Congressional Medal of Honor Society, exercising strong leadership of this most exclusive group of Medal of Honor recipients. He’d even become one of the subjects of a book whose title developed into the blanket term for all his contemporaries, Tom Brokaw’s *The Greatest Generation*.

Bob accepted the requests on his time routinely, often spending his own money to do so. He didn’t do it for personal gain. His biggest thrill was getting the title of “honorary” master chief petty officer; no pay in that. He definitely didn’t do it for ego. He’d always tell you that he wore the decoration for the other Marines and sailors with whom he served.

What made Bob Bush remarkable was that he knew what it meant to a hospital corpsman, to meet one of their own—one who had done something remarkable. And he gave you the chance to do that, to meet a genuine hero. He made you feel that he cared about talking to you and that he enjoyed your company, whether it was your once-in-a-lifetime opportunity or as part of a long relationship.

Maybe what was most remarkable about Bob Bush was that he made you feel as if you were on common ground, that you possessed a hint of the same spark, the same strength of character that he exhibited on Okinawa in 1945. He made you, as a Navy hospital corpsman, feel you had the potential to be as great as he was. He set the bar for us, and he did it with a warm smile.

Thanks, Doc. We’ll miss you. □

—By HMCM(FMF) Mark T. Hacala, USN, Navy Reserve Bureau of Medicine and Surgery, Washington, DC, and Director, Education Institute, U.S. Navy Memorial Foundation, Washington, DC.

Book Review

Recent Books of Note

Professionals of the Navy Medical Department involved in operational medicine will find two books of note published this year. Retired Army General William G. T. Tuttle Jr., spent 34 years in the airborne infantry and rose to be the Army's senior logistician. Frankly, there are very few books that exclusively discuss military logistics, of which medical is always a part, so it is an event when a new title comes out. Tuttle has published *Defense Logistics for the 21st Century* (Naval Institute Press, Annapolis, MD. 2005, 329 pages). This work distills a career in military logistics. But, more importantly, the author discusses how he views the ability to sustain forces in this current climate of asymmetric warfare. Medical Service Corps officers involved in plans, operations, medical intelligence, or medical logistics will find this book of particular interest. Some others would include Medical Corps officers, senior corpsmen, officers going to the fleet or Fleet Marine Force commands, like Force Service Support Group Surgeons and Fleet Surgical Team Officers in Charge.

Overall, the book involves two major components—force projection and sustainment of forces. Force projection means getting the fighting force to the area of operation with their equipment and support. This includes preparations for deployment, in which medical plays a crucial role. Sustainment of forces is the continuous maintenance of forces in theater. Sustainment of forces is further subdivided into sustainment of people and sustainment of weapons and support systems. Specialists in medical regulating, medical logistics, plans, operations, and medical intelligence will find the entire logistics system that supports weapons can also present opportunities to replace or repair medical equipment and obtain transportation for medical supplies. Perhaps the very

core of our mission in Navy medicine revolves around sustainment of people. Chapter Nine, "Sustaining the People in Operations," is a must read chapter. Tuttle urges military logisticians to think of the complexities of sustaining people in the environment by borrowing from the Joint Staff Medical concept of Force Health Protection. Maintaining a healthy fighting force is what he presses the supply officer to think of when planning for sustaining people. This includes planning for adequate nutrition and water intake; appropriate clothing and shelter; WMD protective clothing; and disease, illness, and accident prevention services as well as restorative care. Each requirement can and should involve military medical professionals as integral advisors to the logistian preparing the plan for sustaining the force.

This chapter also discusses water and ice procurement, and non-battle casualty prevention that includes disease and injury prevention. When one thinks of injury in a military medical sense it is often associated with combat but this book also sensitizes readers to sports injuries and routine injuries inherent around a base camp. You will also learn how military logisticians are taught the continuum of care. So don't be surprised if an Army quartermaster calls for a medical evacuation to a large-deck amphibious ship. Learning the medical capabilities of the different services is part of a logistian's training. The chapter ends with a discussion of how to develop a reliable process of replenishing what are called pharmaceuticals and medical/surgical supplies (P&MS). Learning about this pipeline is crucial for those corpsmen and Navy medical officers deployed at sea or in an area of operation. Taking time to examine Tuttle's work will expand your appreciation for the modern military logistical process.

* * *

A new book out last summer from the Naval Institute, in collaboration with the Association of the United States Army, is *Medics at War: Military Medicine from Colonial Times to the 21st Century* (Naval Institute Press, Annapolis, MD,

2005, 199 pages). This is a new and brightly illustrated history of American military medicine by the Army's Chief Medical Historian John Greenwood and author, as well as Vietnam veteran F. Clifton Berry, Air Force Medical historian, James Nanney, and Navy Medical Historians, Jan Herman and André Sobocinski. The book takes a comprehensive look at disease and battle injuries throughout America's wars and the men and women who helped alleviate suffering and conserved America's fighting forces. Readers will learn the origins of the Navy's Bureau of Medicine and Surgery, and that the first aeromedical evacuation took place at Kelly Field, TX in February 1918. The same year American forces were fighting in World War I, the steamships *Havana* and *Saratoga* were converted to USS *Comfort* (AH-3) and USS *Mercy* (AH-4). These hospital ships would never see action in Europe except as troop transports at the end of the war.

The book discusses the evolution of medical procedures, technology, and techniques through each war. The introduction of helicopter evacuation during the Korean War is a case in point. Getting the wounded medical attention quickly was a key means of saving life. The so-called "golden hour" was better understood in the Korean conflict and became an obsession of American medics. This conflict would see the evolution of dedicated medical helicopter detachments.

There were other transportation advances. The infant Air Force employed C-47 and C-54 planes

to evacuate the wounded from the theater to hospitals in Japan and CONUS, shortening the time between injury and treatment. The 801st Medical Air Evacuation Squadron (MAES) was among the first units to receive a Distinguished Unit Citation for evacuating 4,700 casualties from the Chosin Reservoir in 1950.

We take the acronym MTF (Military Treatment Facility) for granted today as simply meaning hospital. But in 1961 it was a concept developed by the Army that grouped together outpatient, dental, pharmacy, and other services around a military hospital. The concept of patient access was the driver of this new development in organizing military hospitals.

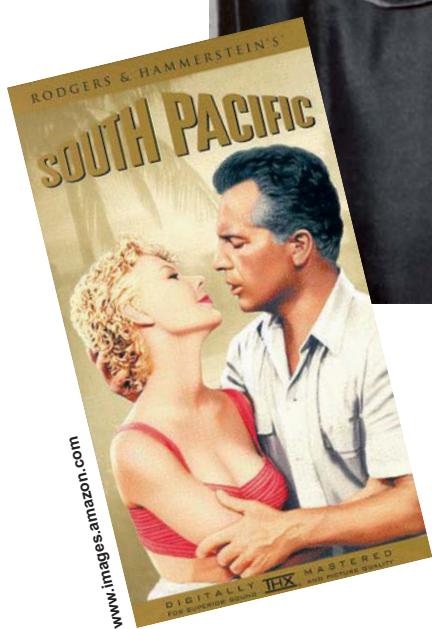
The book looks at each service's military medical accomplishments in Operation Iraqi Freedom with specific mention of the Forward Resuscitating Surgery Systems (FRSS) and the 600 surgeries the USNS *Comfort* performed, 70 percent of which, the book states, were orthopedic in nature. Readers will also find material relating to recent history in a chapter which details not only the changes each service's medical department has been undergoing in the post-Cold War world but also information about little known Navy medicine missions—HIV research in Zambia, humanitarian aid to Ghana and Honduras, and training a new generation of Iraqi combat lifesavers.□

—LCDR Youssef Aboul-Enein, MSC, USN, Plans, Operations and Medical Intelligence Officer, Middle East and Islamic Militancy Advisor, Office of the Secretary of Defense.

Navy Medicine 1947



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Director of the Navy Nurse Corps, CAPT Nellie Jane DeWitt, and superstar Mary Martin, are presented a new type of compact by the Elgin American Company. Martin is best remembered as "Peter Pan" on Broadway and in the 1960 tele-musical of the same name. She also achieved fame as Navy nurse ENS Nellie Forbush in the Richard Rodgers and Oscar Hammerstein II musical "South Pacific."



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